

Plots created using the 'r4ss' package in R

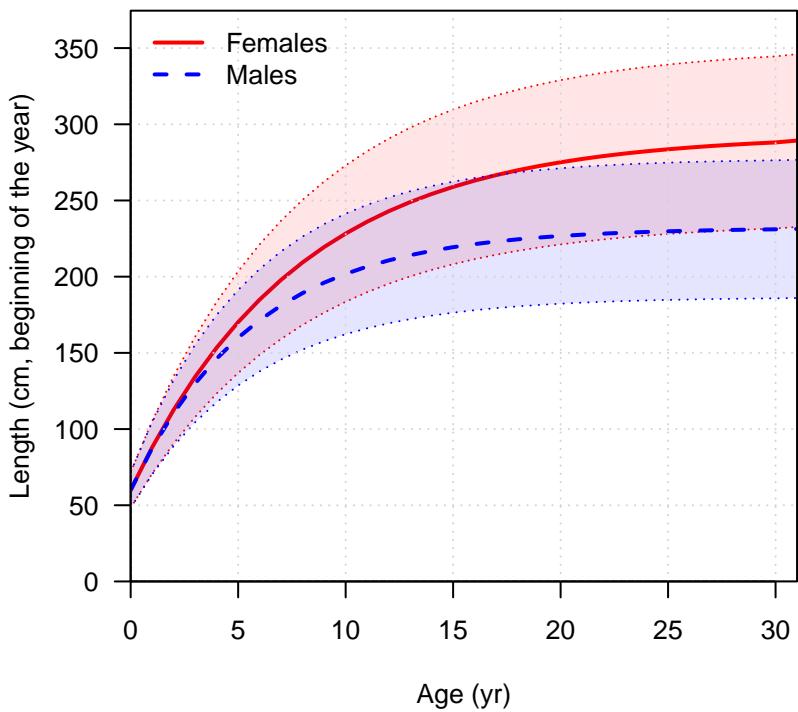
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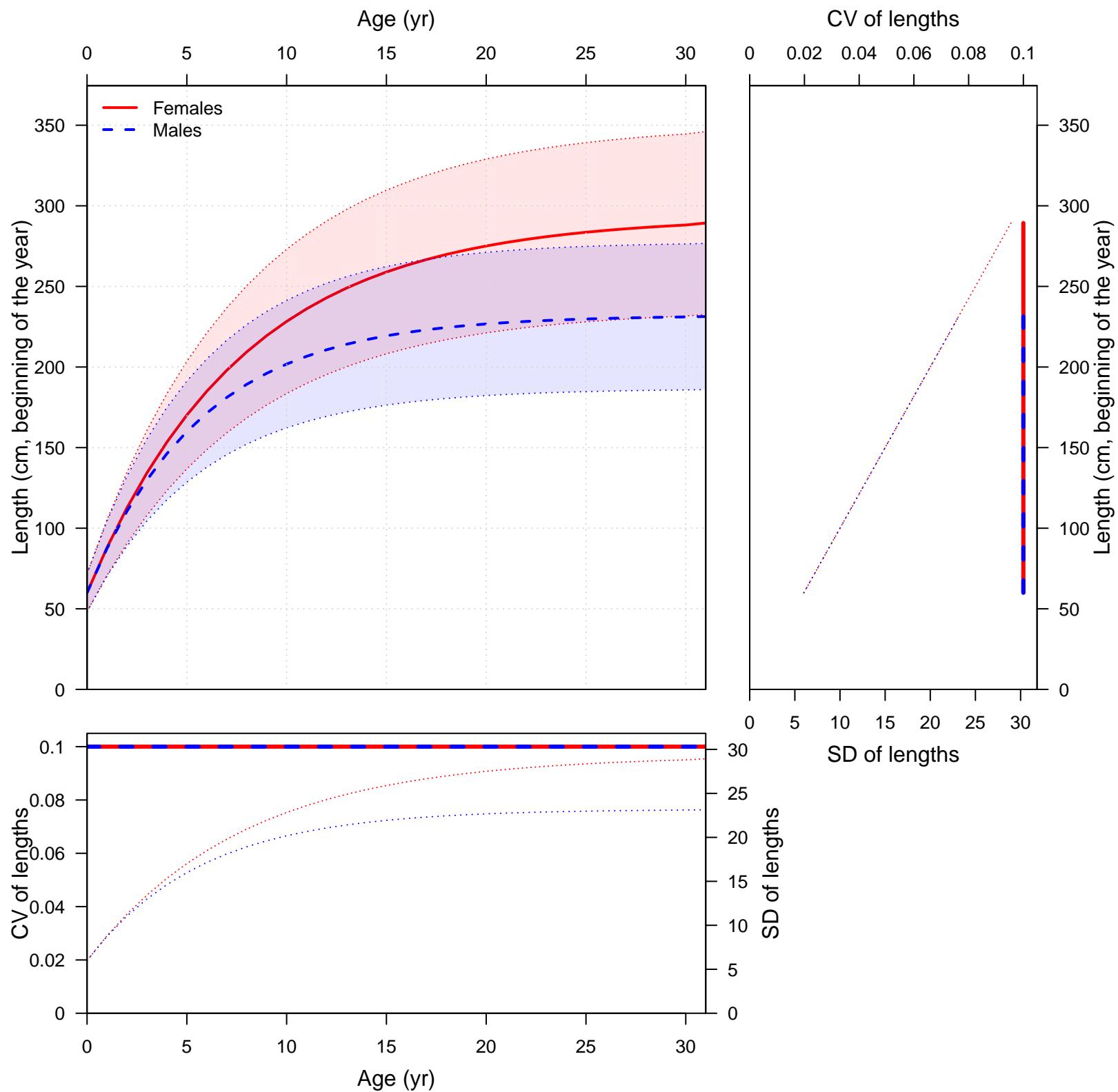
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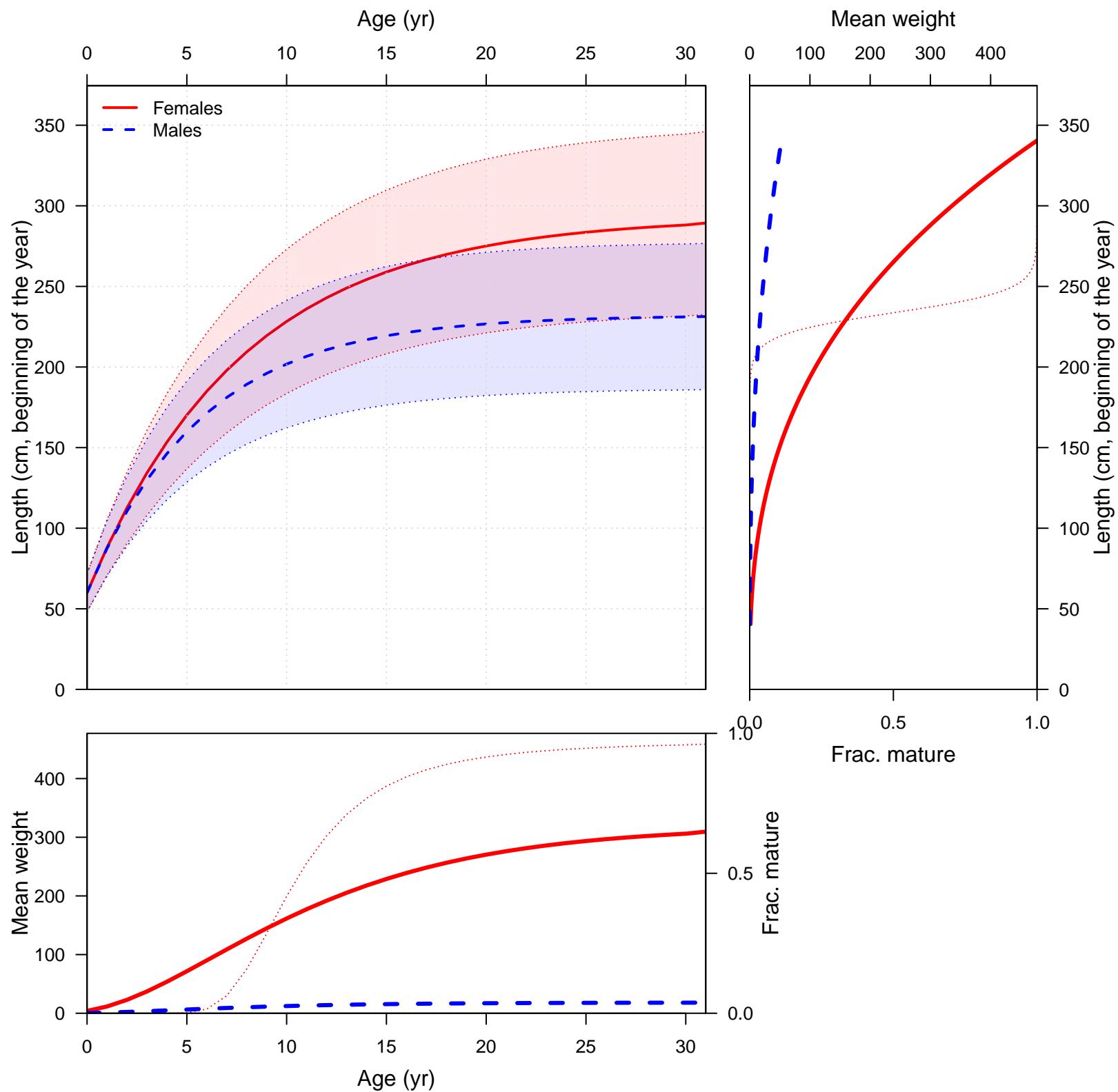
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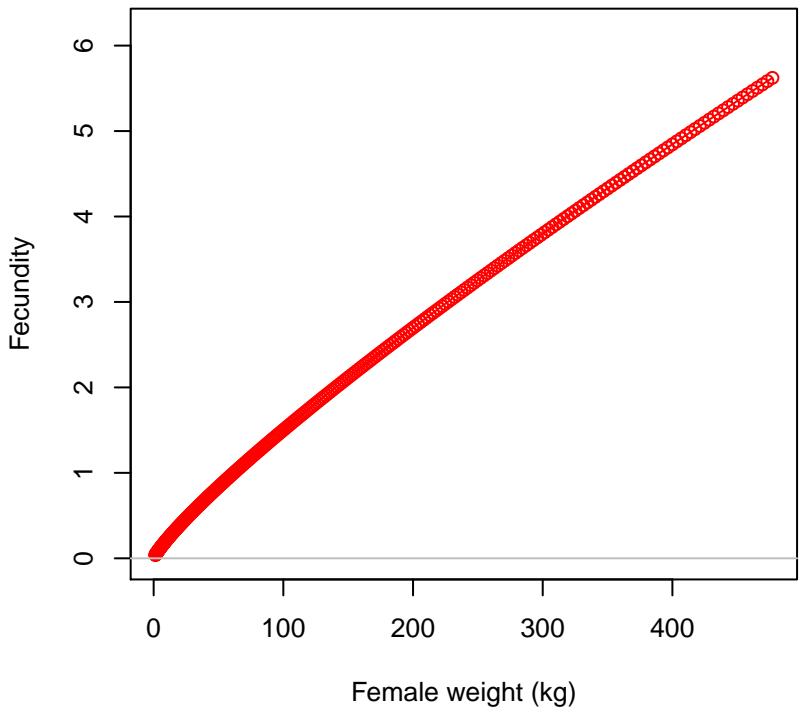
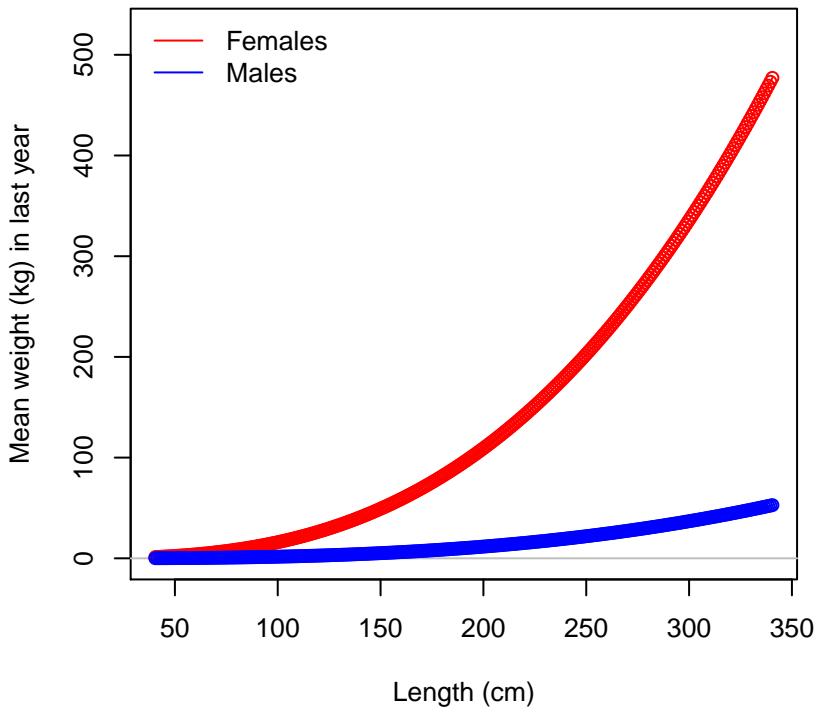
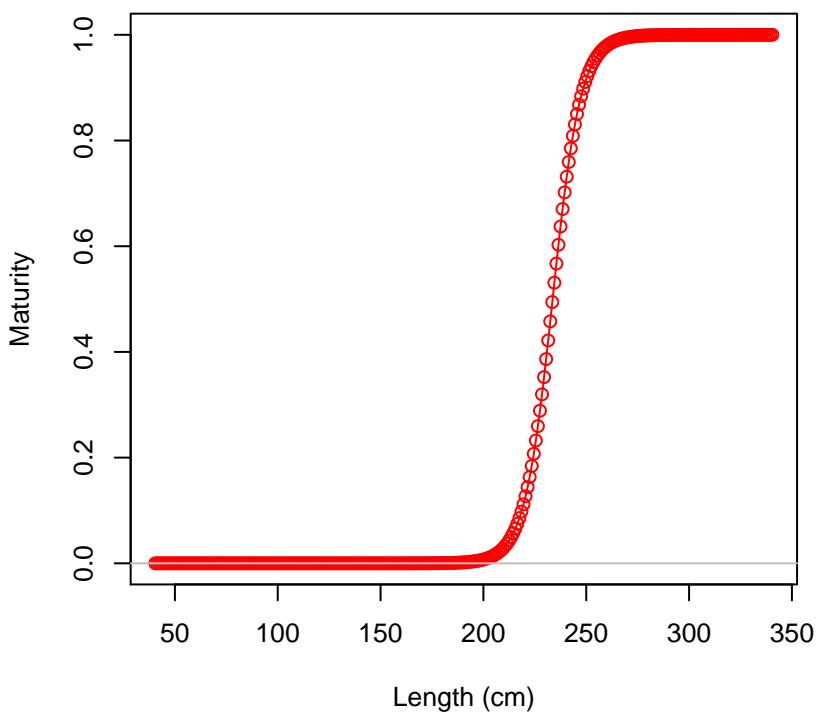
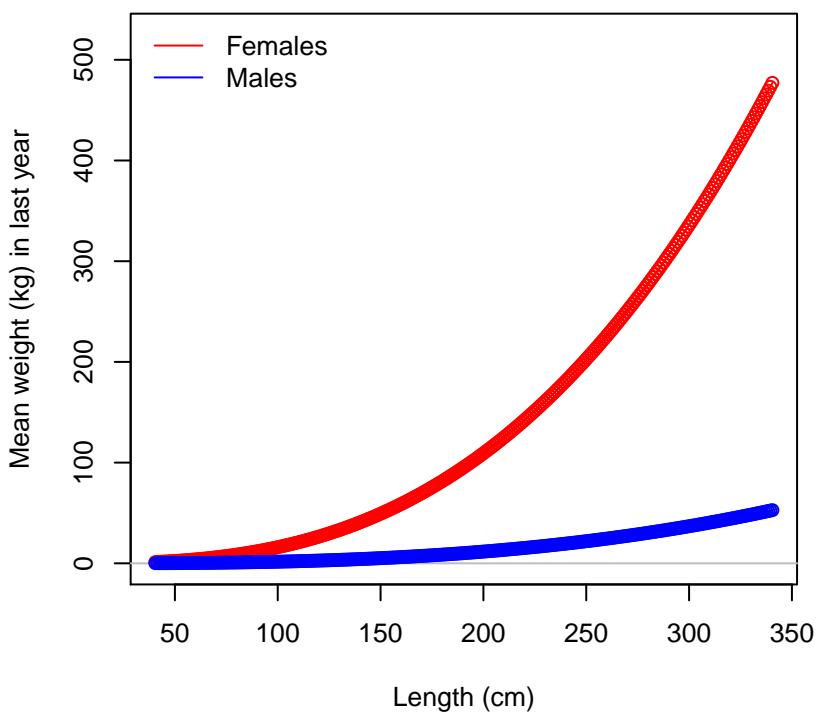
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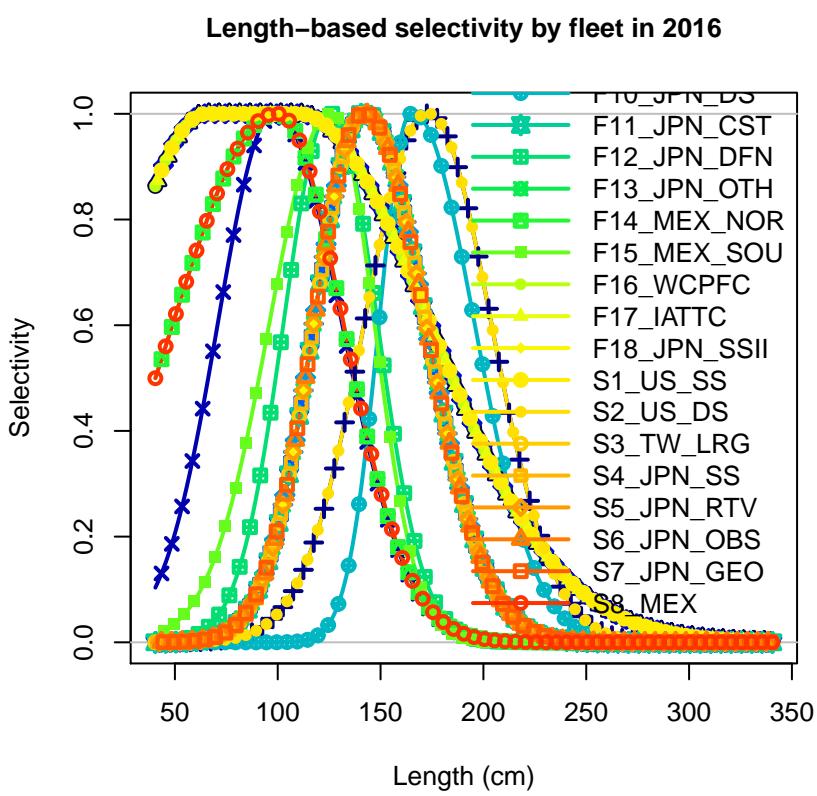
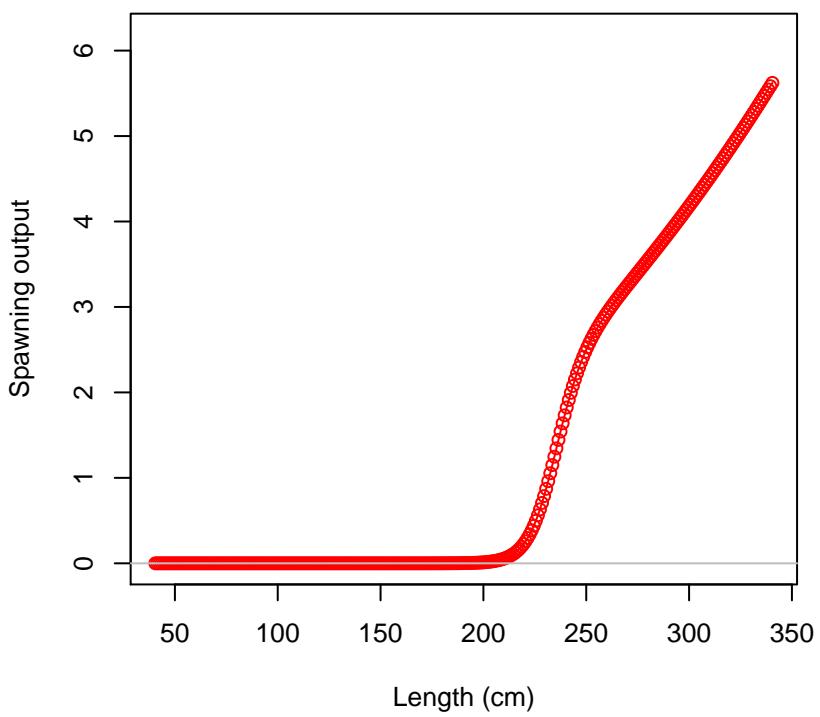
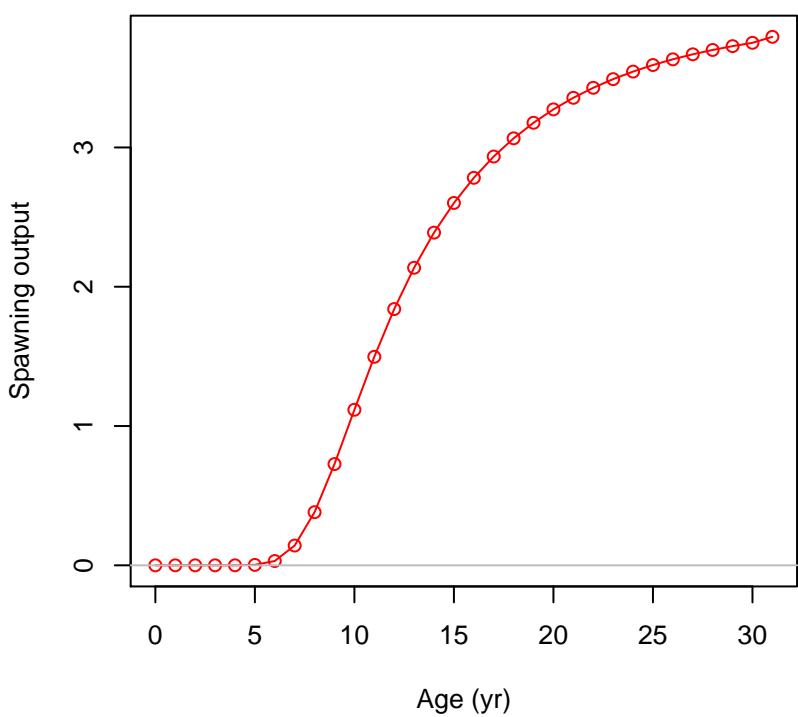
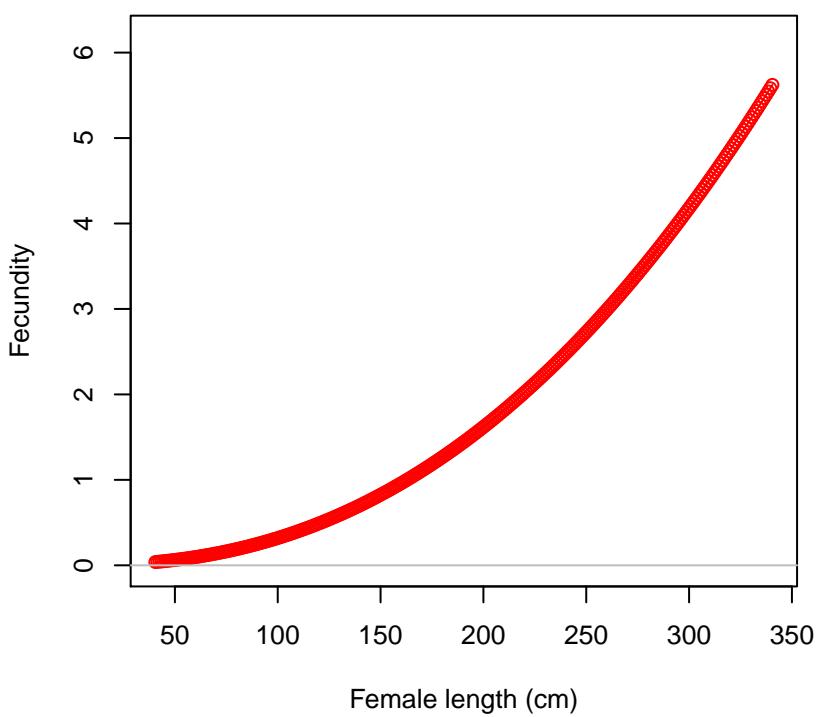
### Ending year expected growth (with 95% intervals)



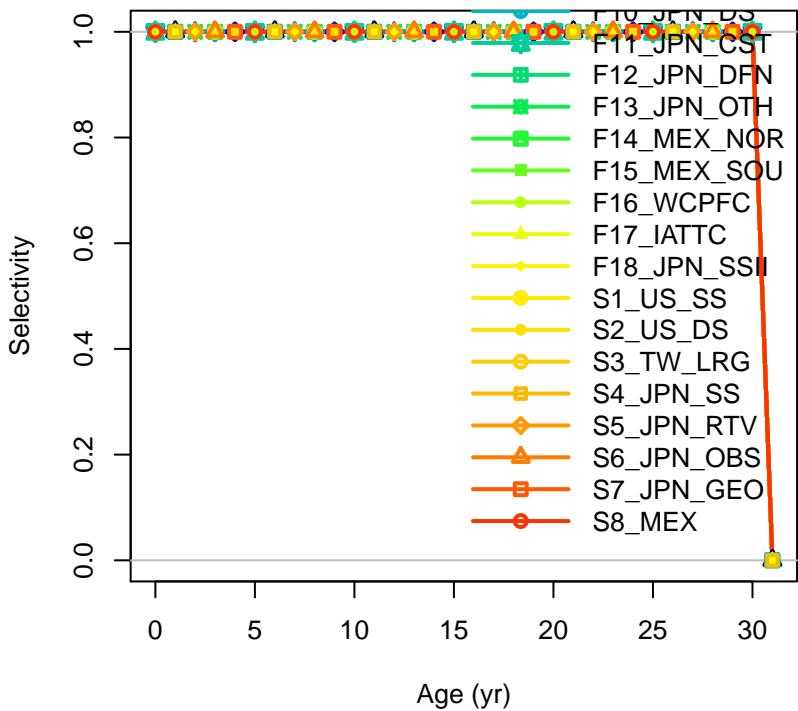




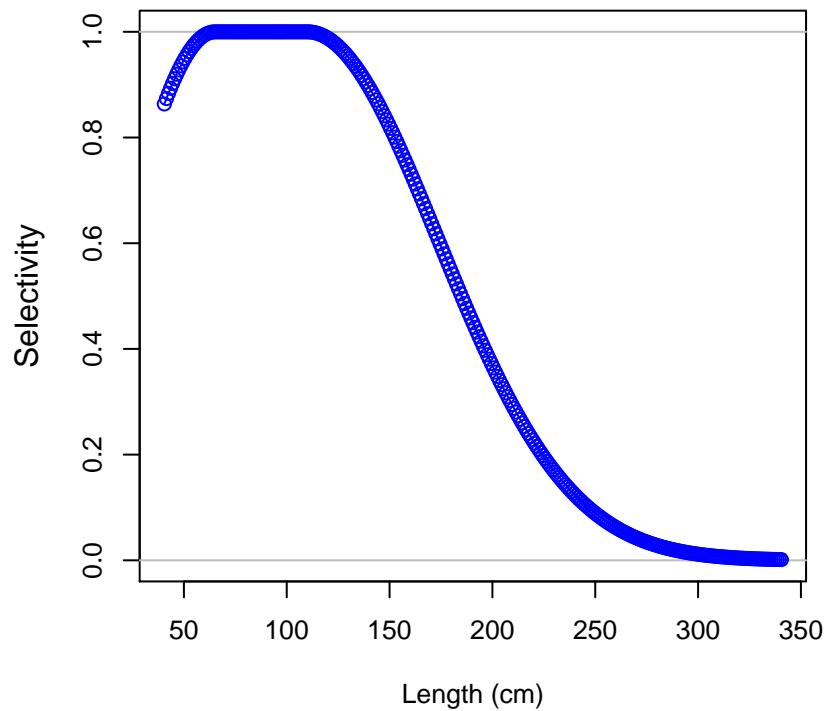




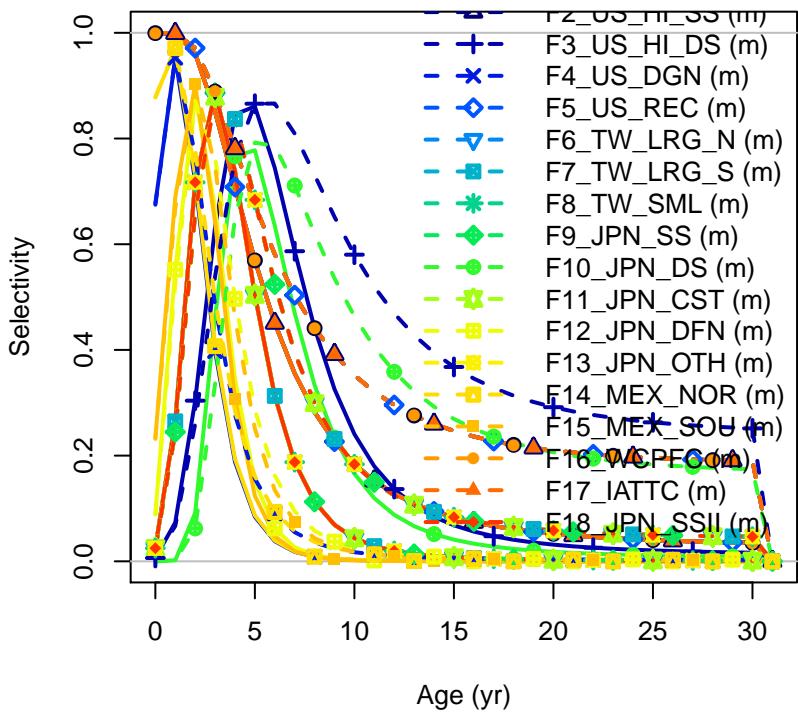
**Age-based selectivity by fleet in 2016**



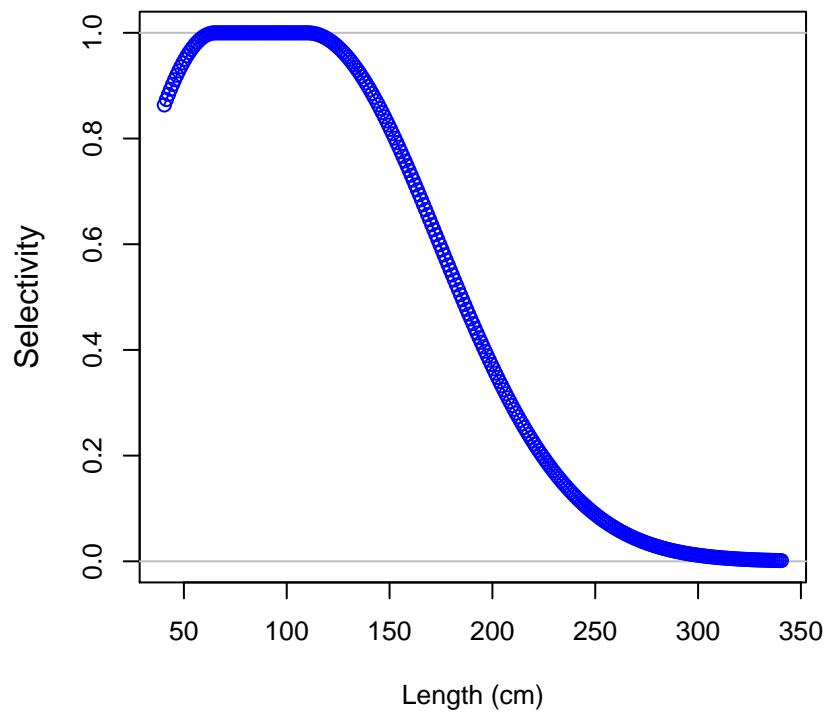
**Female ending year selectivity for F1\_US\_CA**



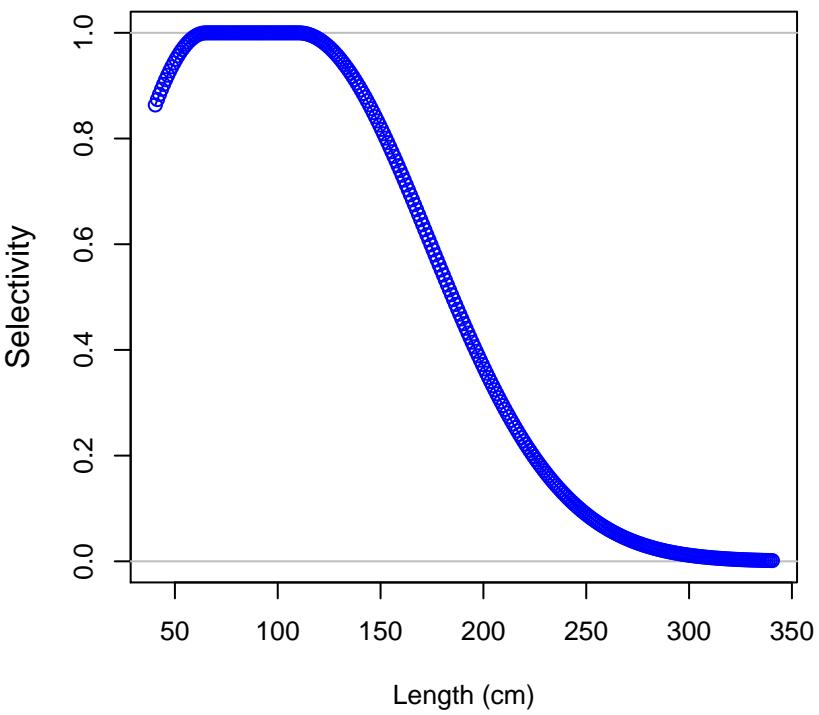
**Derived age-based from length-based selectivity by fleet in 2016**



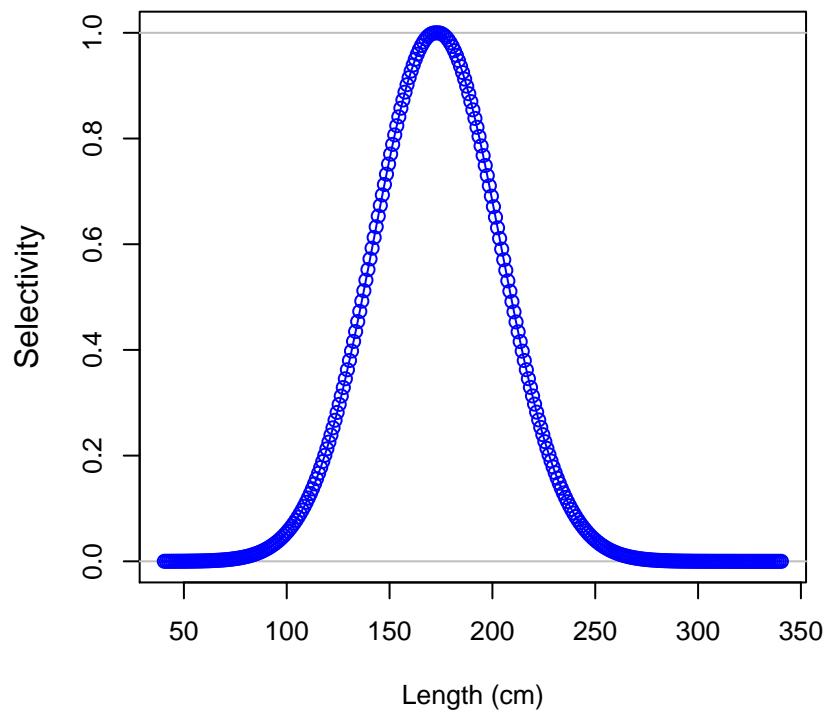
**Male ending year selectivity for F1\_US\_CA**



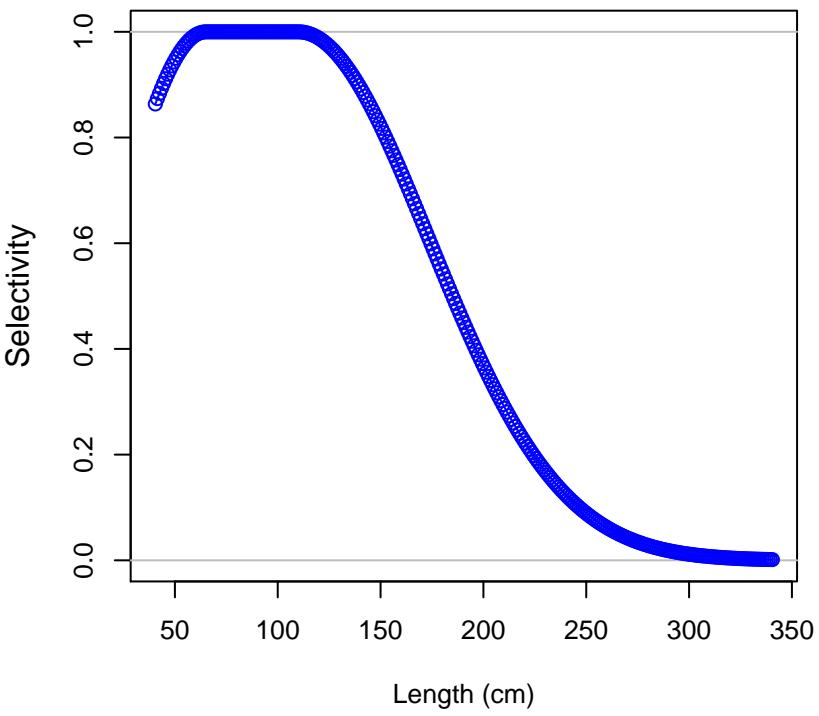
**Female ending year selectivity for F2\_US\_HI\_SS**



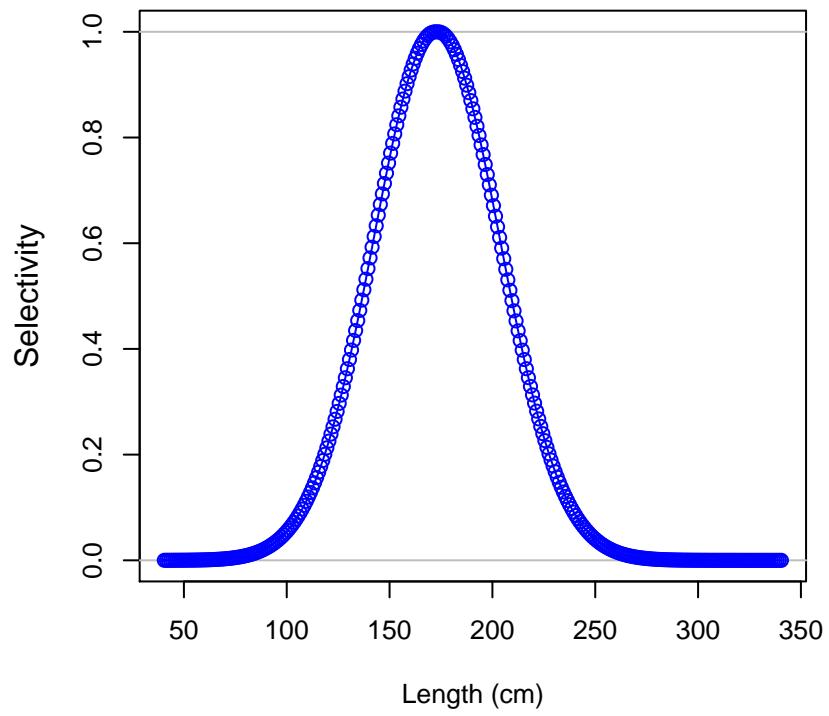
**Female ending year selectivity for F3\_US\_HI\_DS**



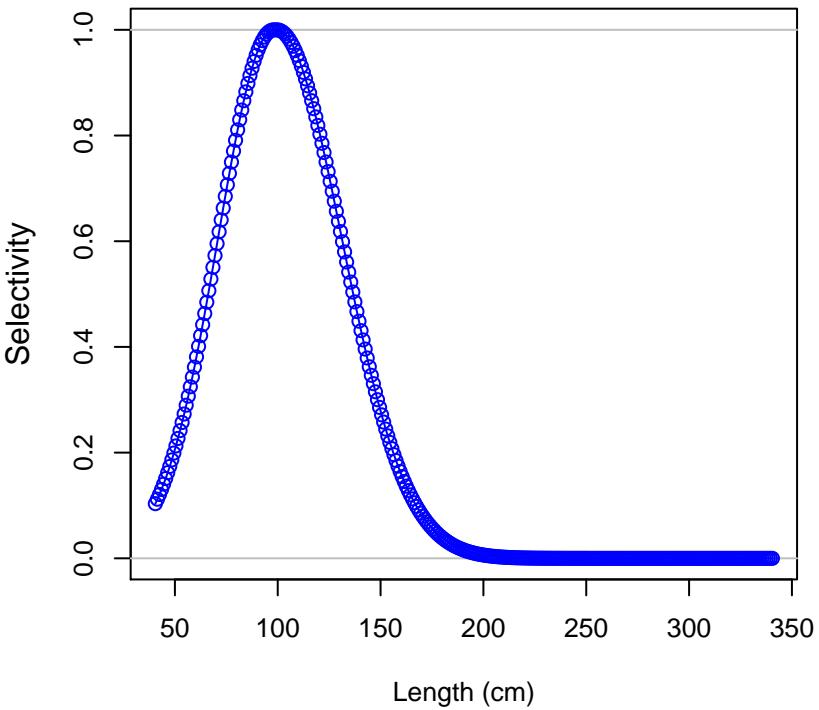
**Male ending year selectivity for F2\_US\_HI\_SS**



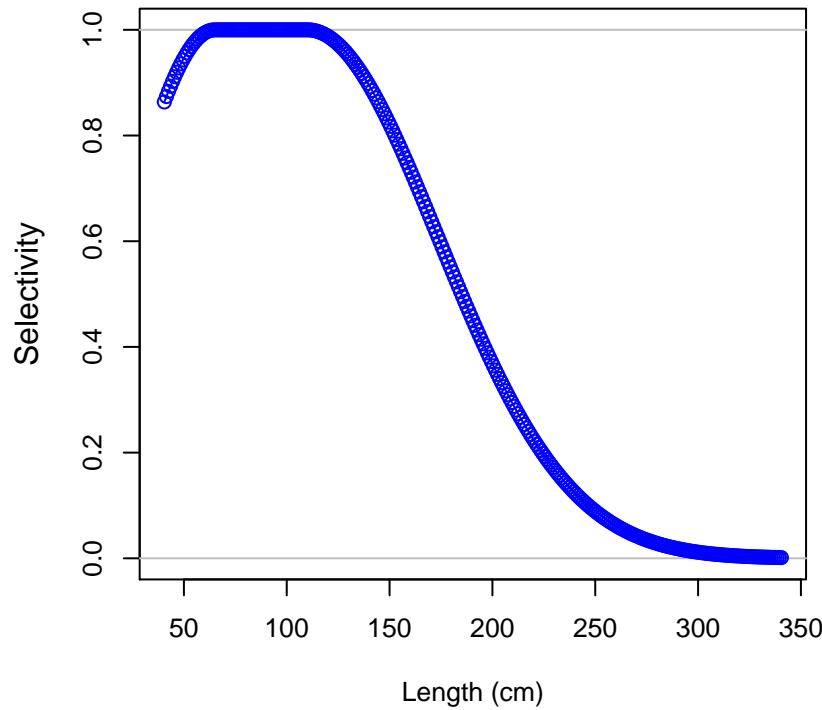
**Male ending year selectivity for F3\_US\_HI\_DS**



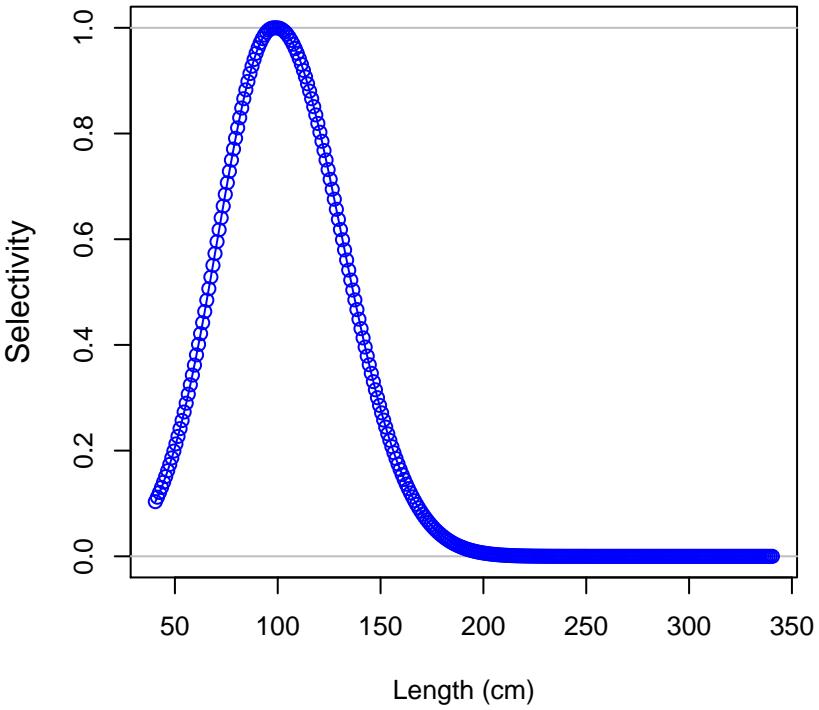
**Female ending year selectivity for F4\_US\_DGN**



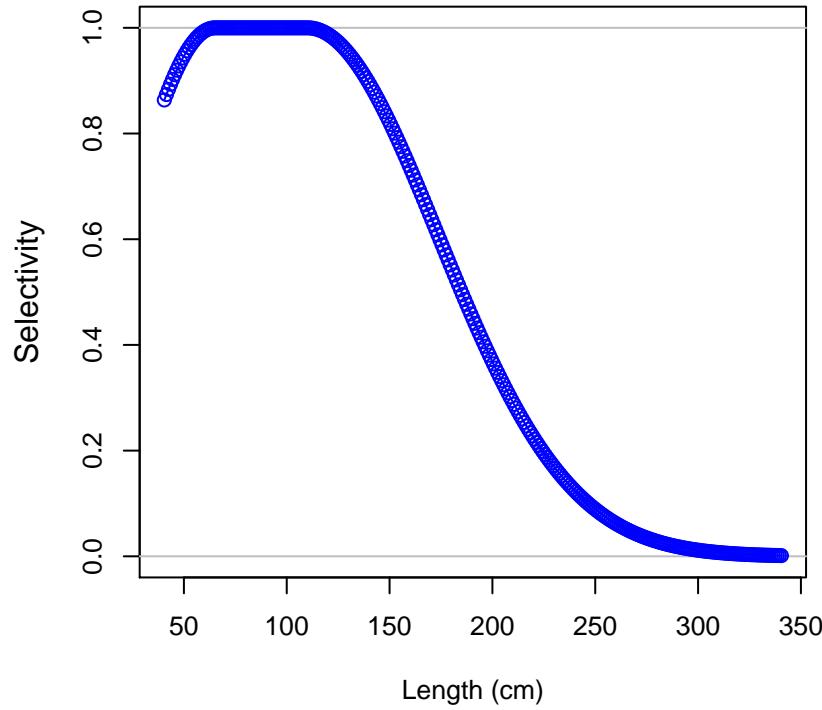
**Female ending year selectivity for F5\_US\_REC**



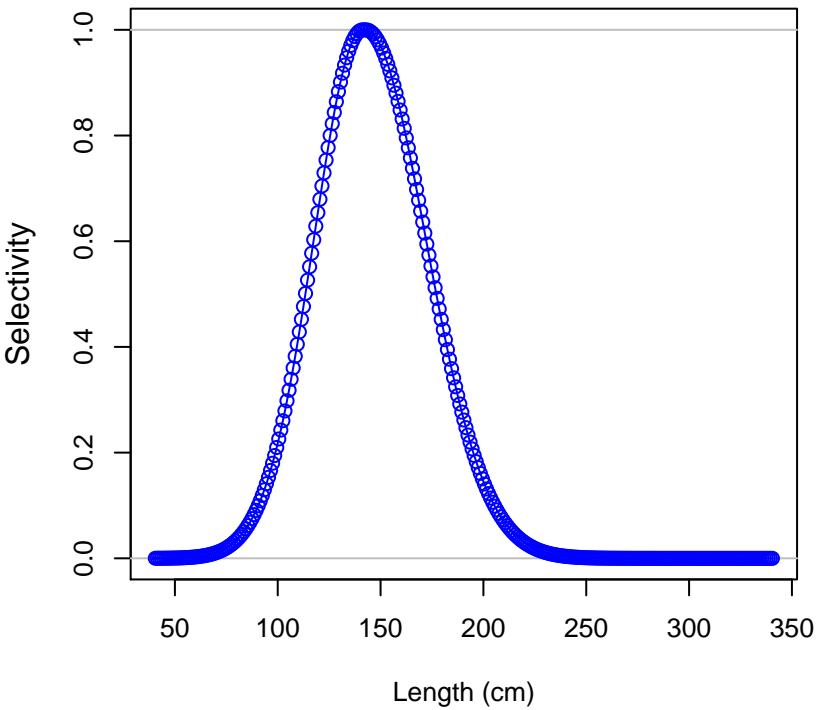
**Male ending year selectivity for F4\_US\_DGN**



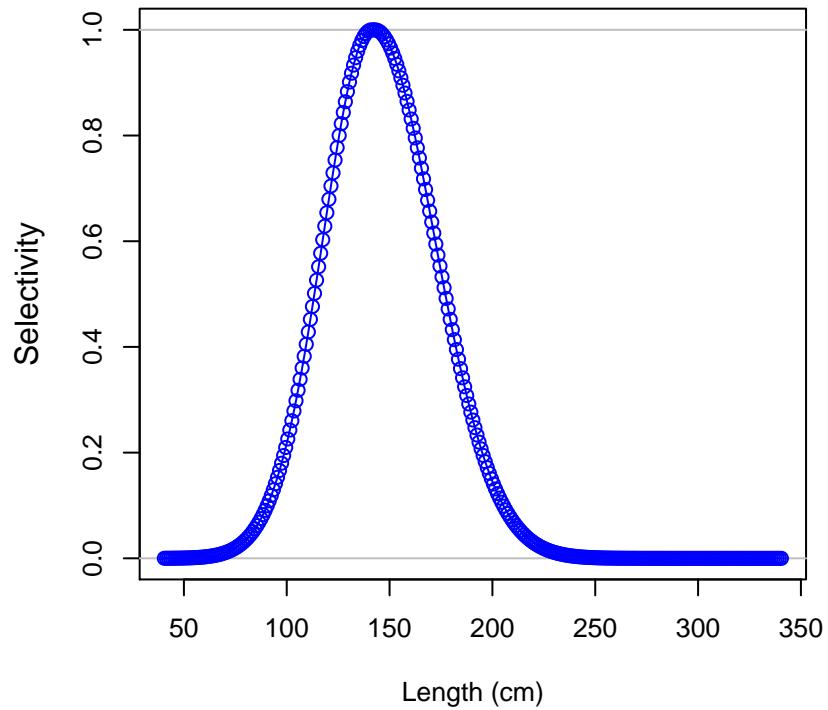
**Male ending year selectivity for F5\_US\_REC**



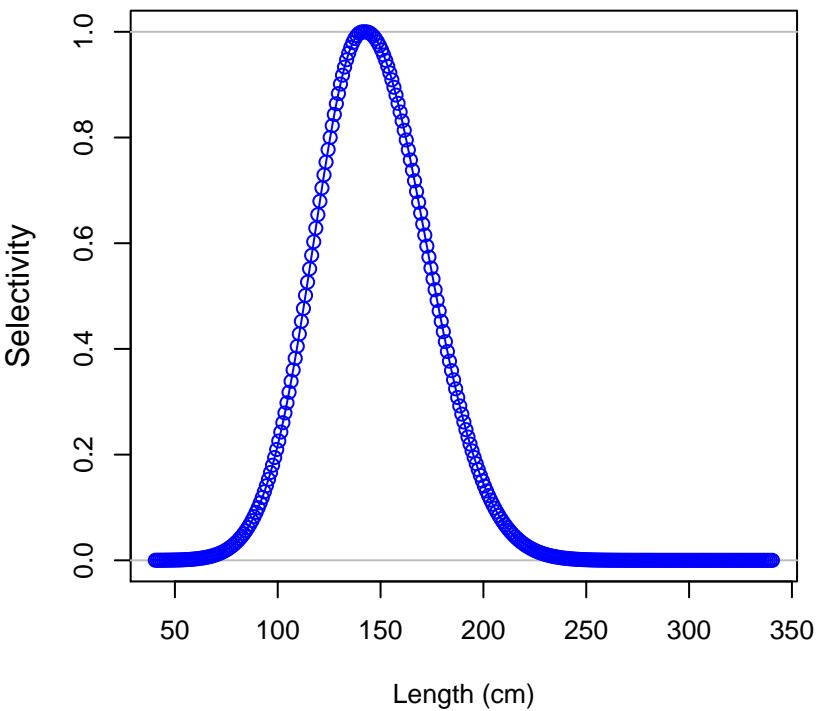
**Female ending year selectivity for F6\_TW\_LRG\_N**



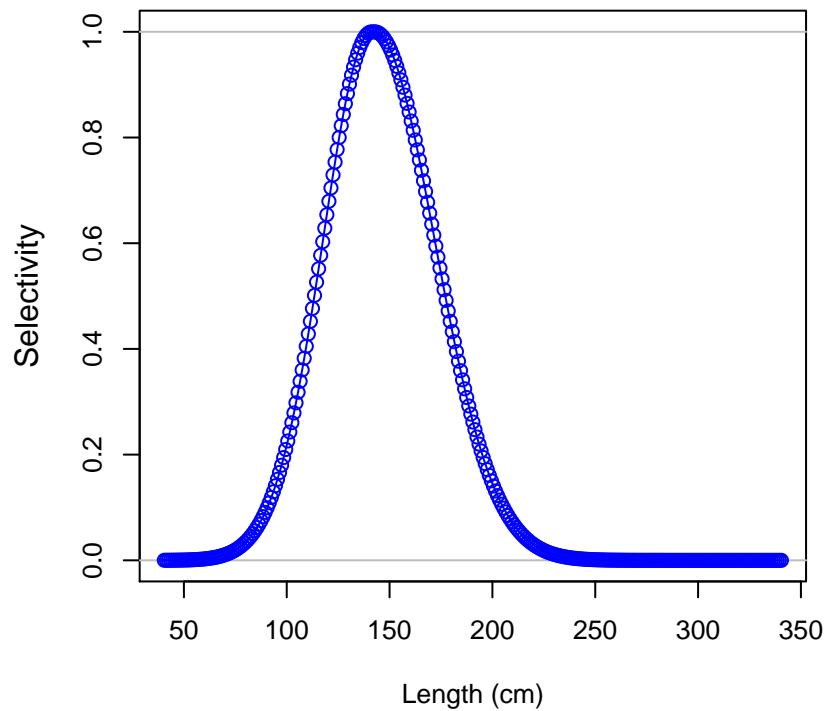
**Female ending year selectivity for F7\_TW\_LRG\_S**



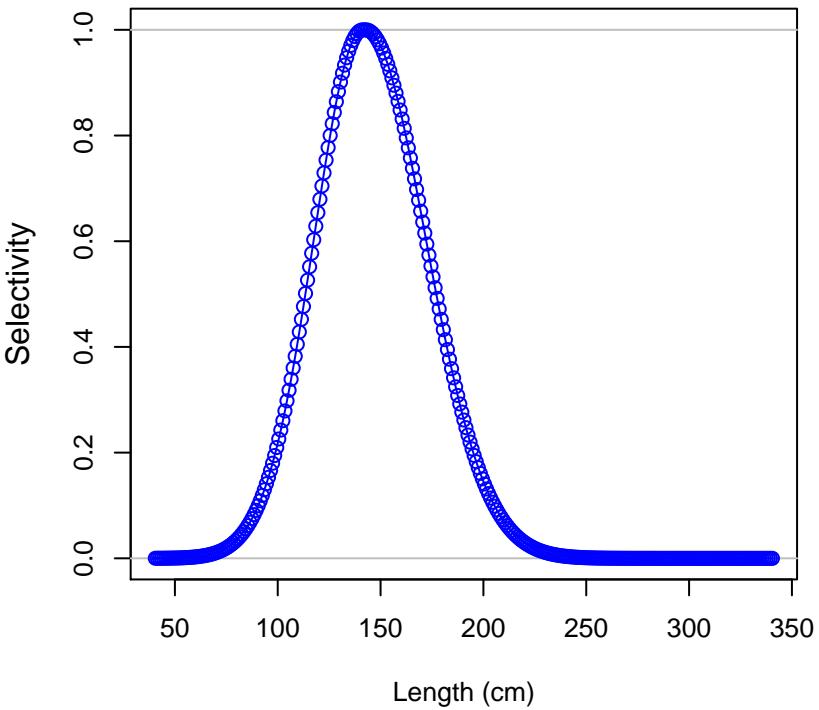
**Male ending year selectivity for F6\_TW\_LRG\_N**



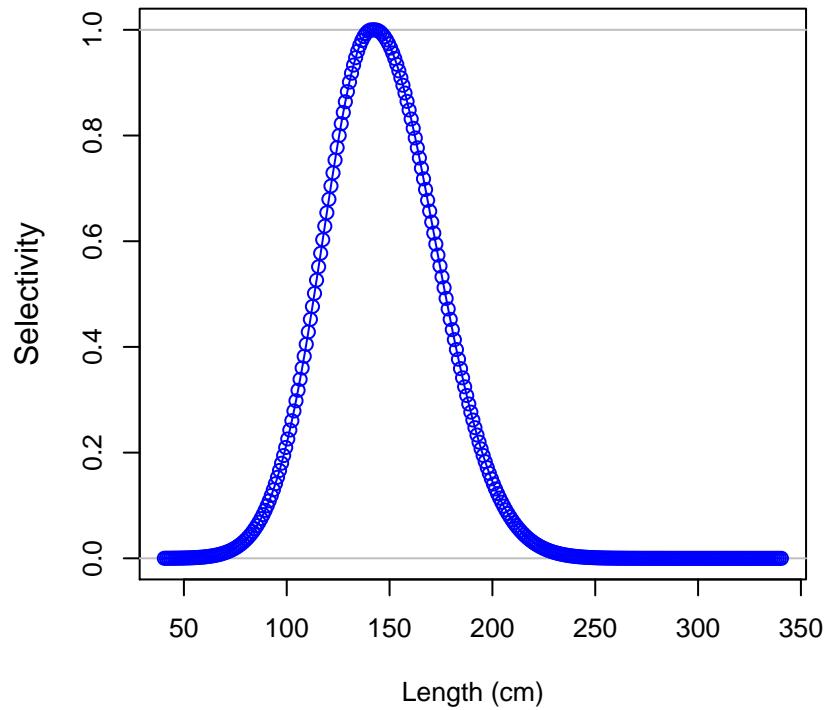
**Male ending year selectivity for F7\_TW\_LRG\_S**



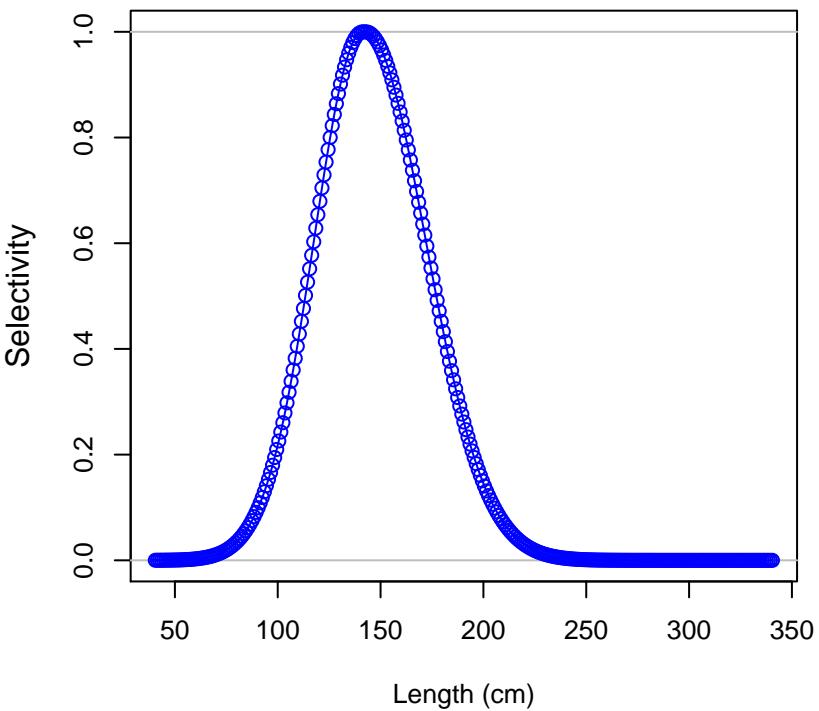
**Female ending year selectivity for F8\_TW\_SML**



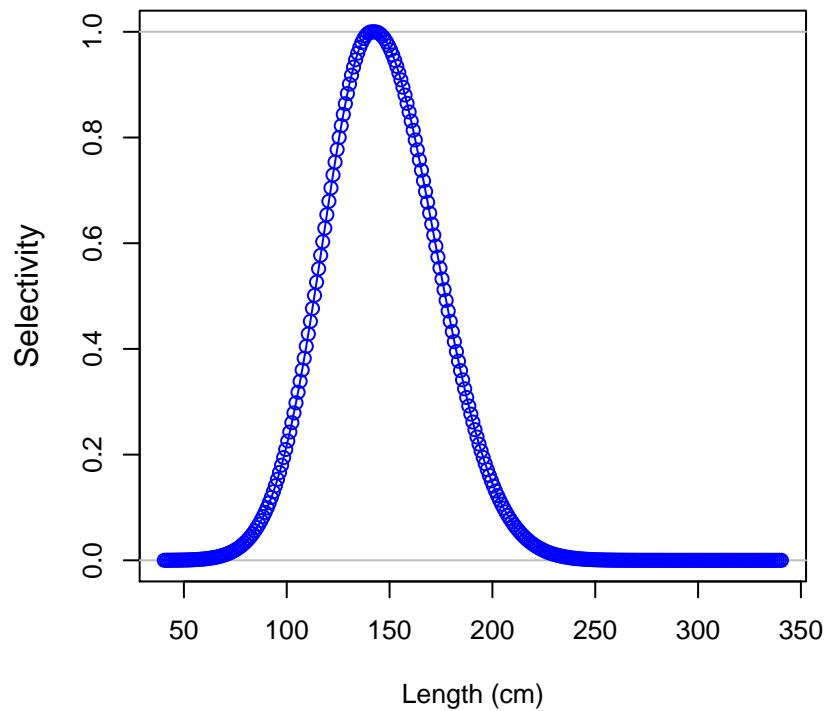
**Female ending year selectivity for F9\_JPN\_SS**



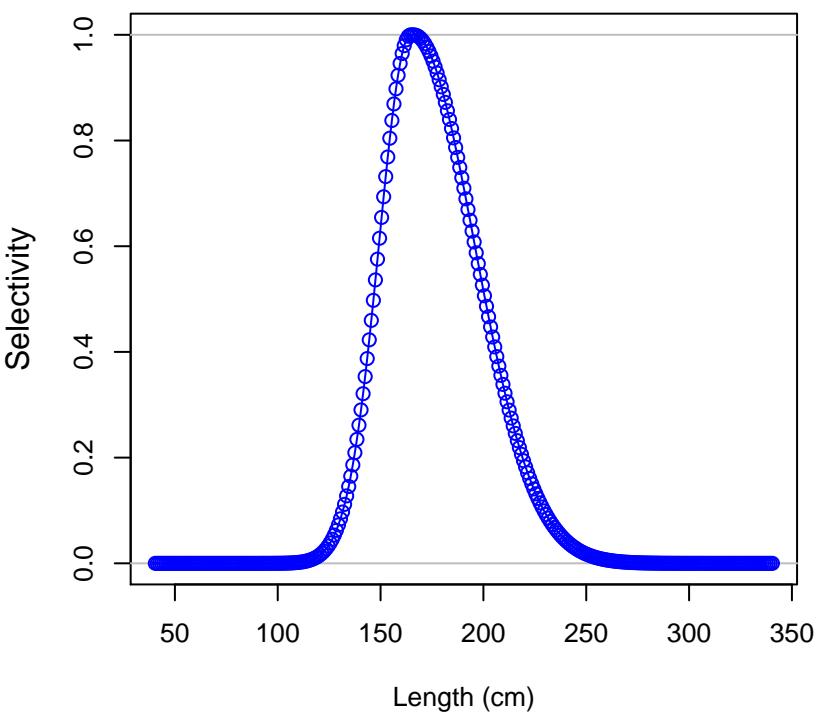
**Male ending year selectivity for F8\_TW\_SML**



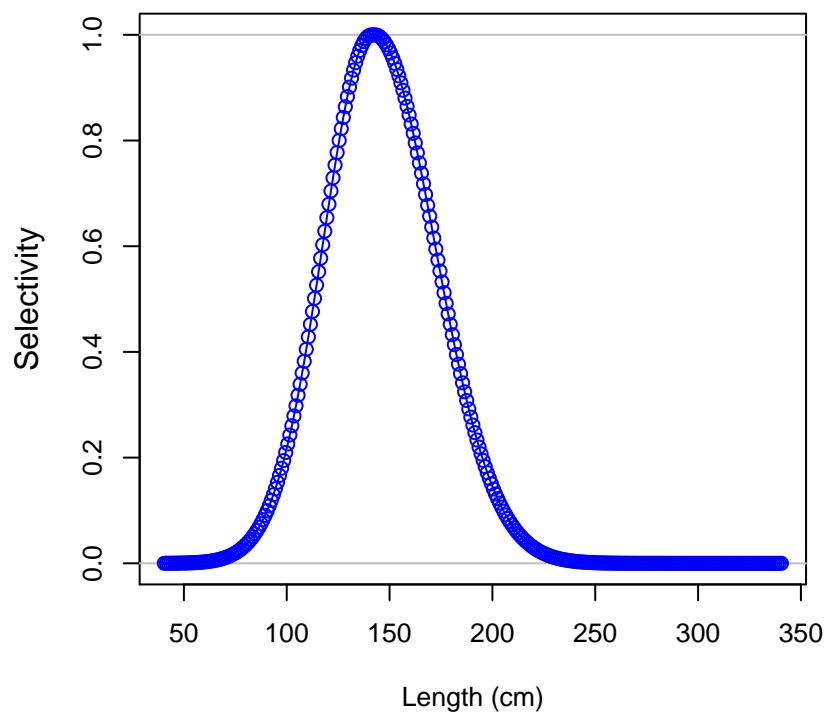
**Male ending year selectivity for F9\_JPN\_SS**



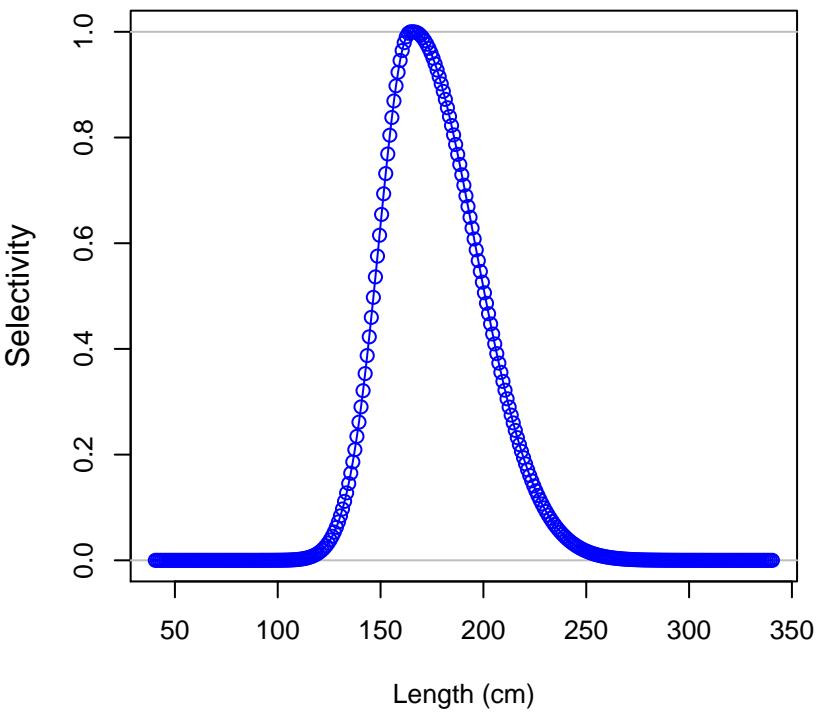
**Female ending year selectivity for F10\_JPN\_DS**



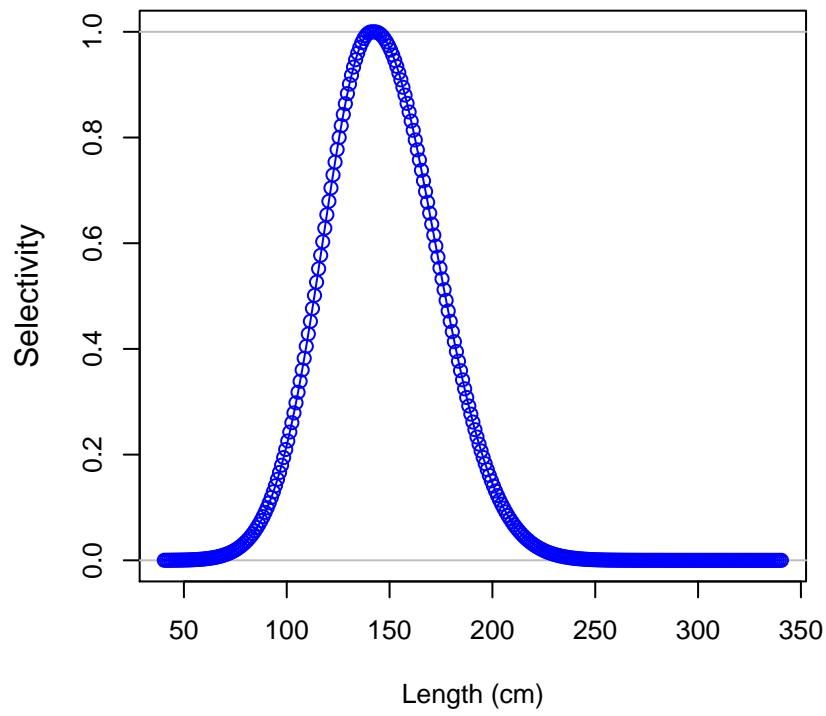
**Female ending year selectivity for F11\_JPN\_CST**



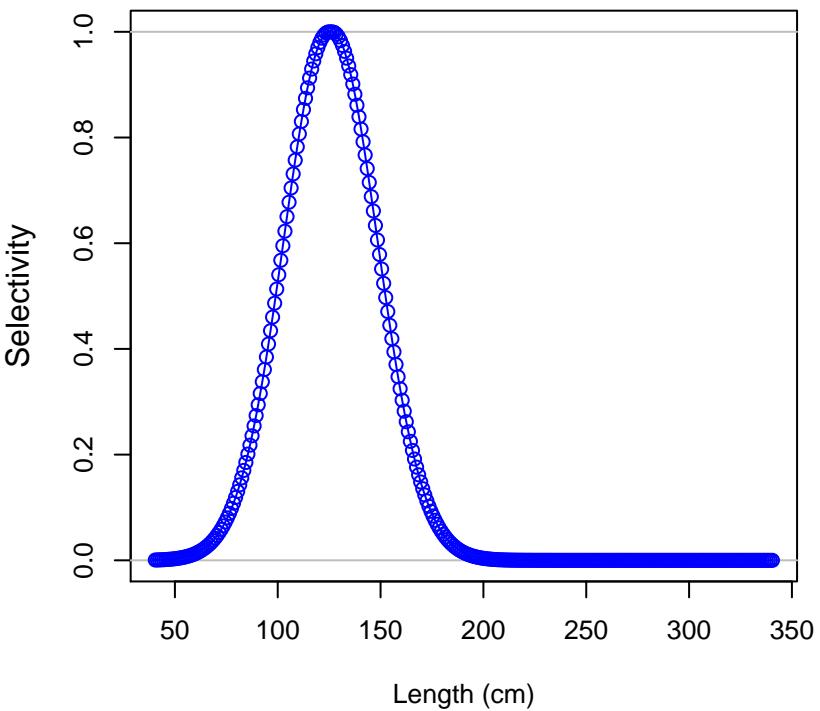
**Male ending year selectivity for F10\_JPN\_DS**



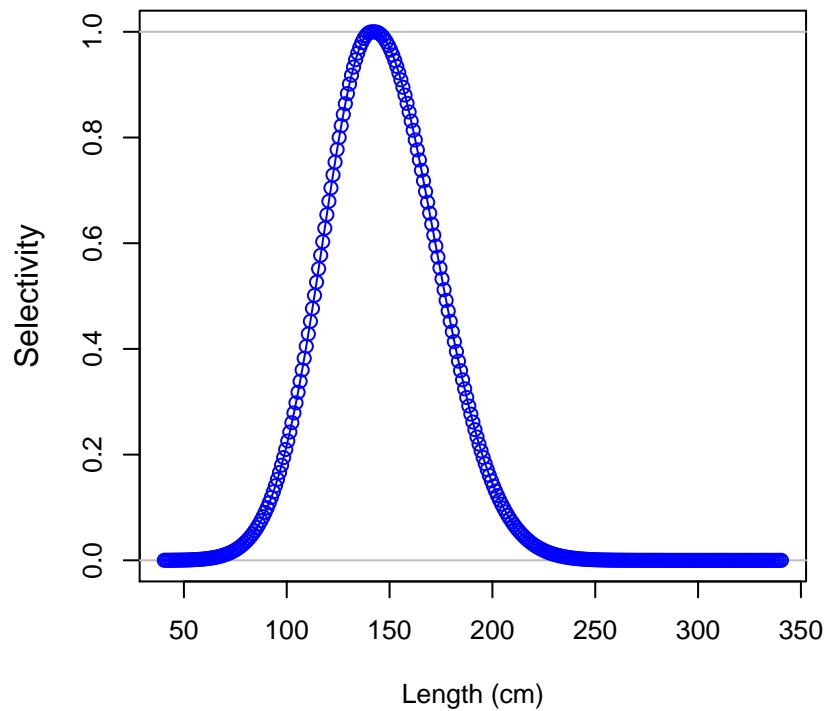
**Male ending year selectivity for F11\_JPN\_CST**



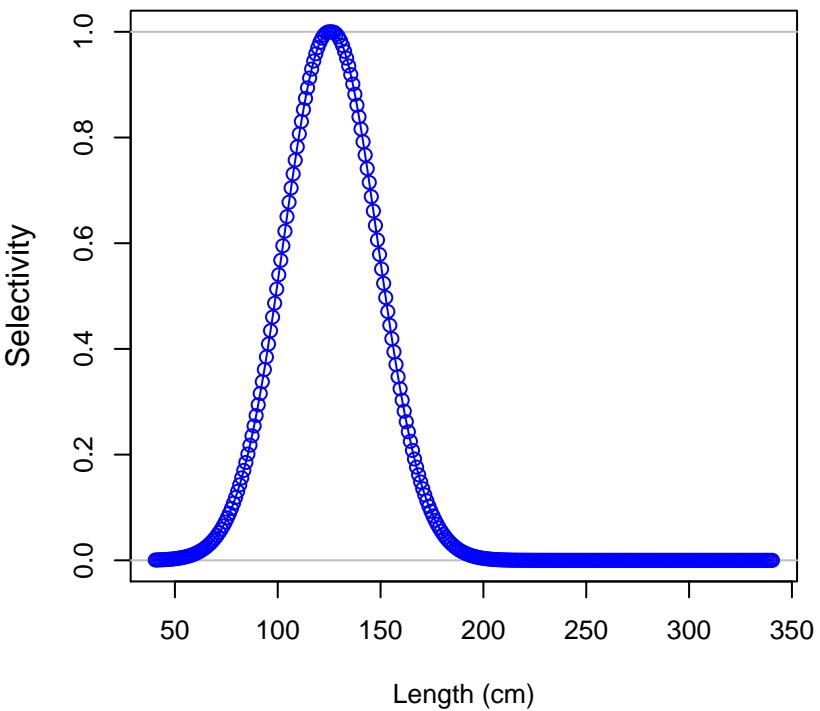
**Female ending year selectivity for F12\_JPN\_DFN**



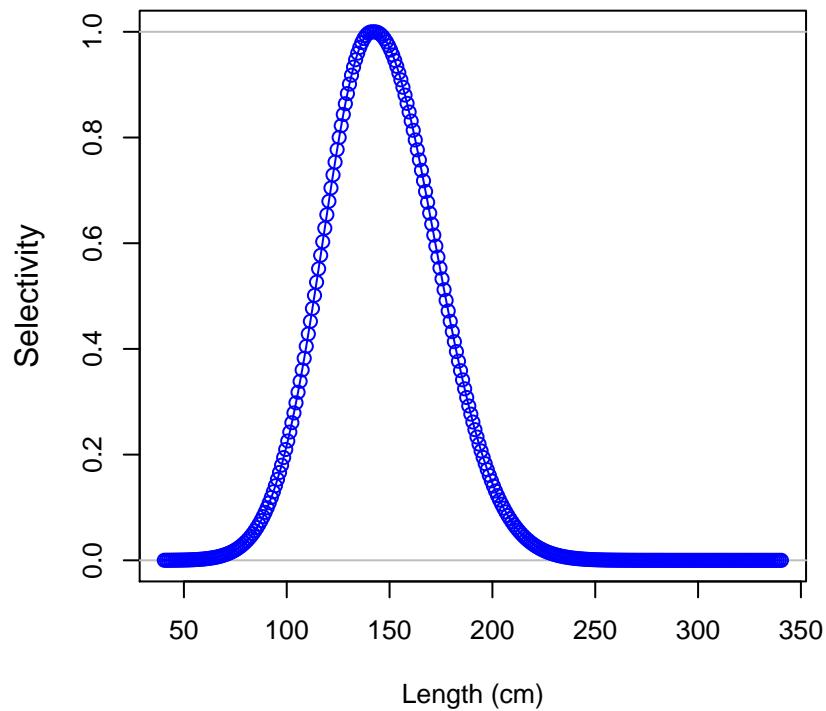
**Female ending year selectivity for F13\_JPN\_OTH**



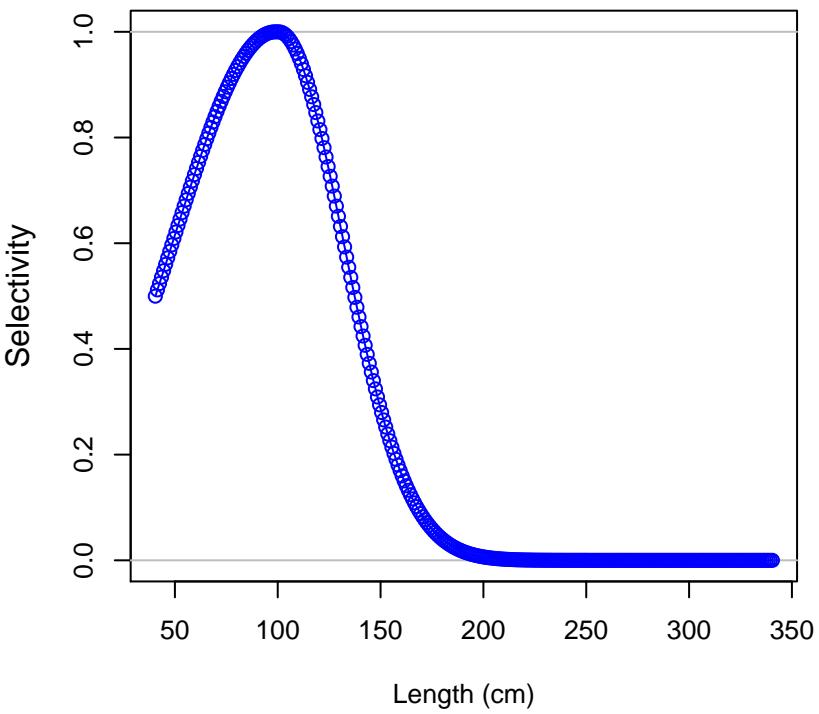
**Male ending year selectivity for F12\_JPN\_DFN**



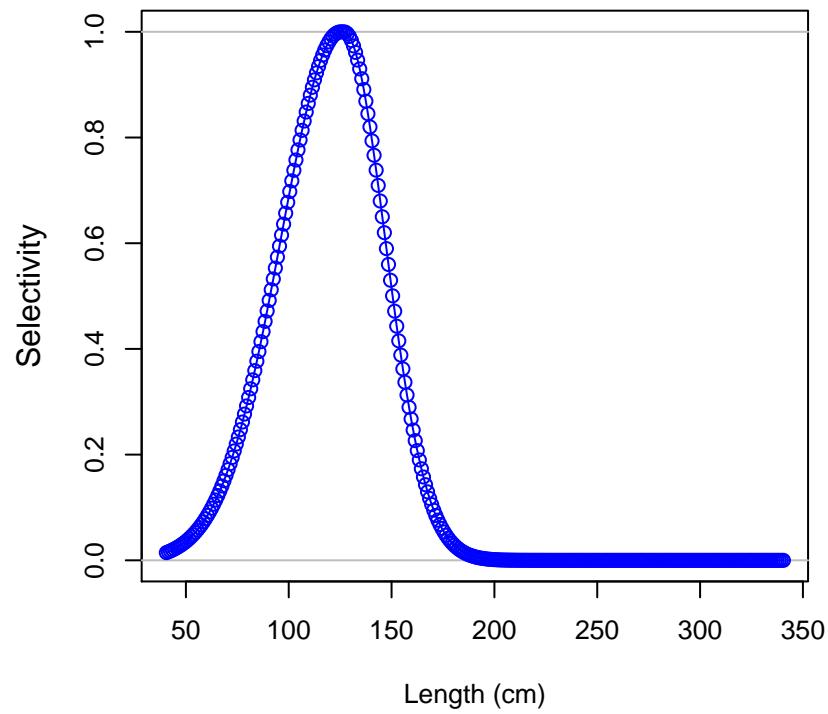
**Male ending year selectivity for F13\_JPN\_OTH**



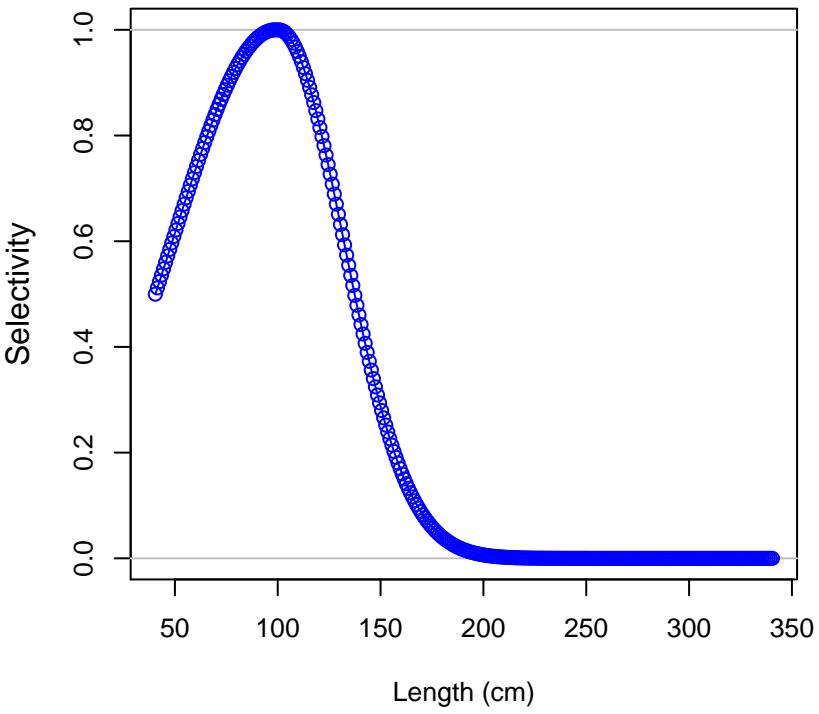
**Female ending year selectivity for F14\_MEX\_NOR**



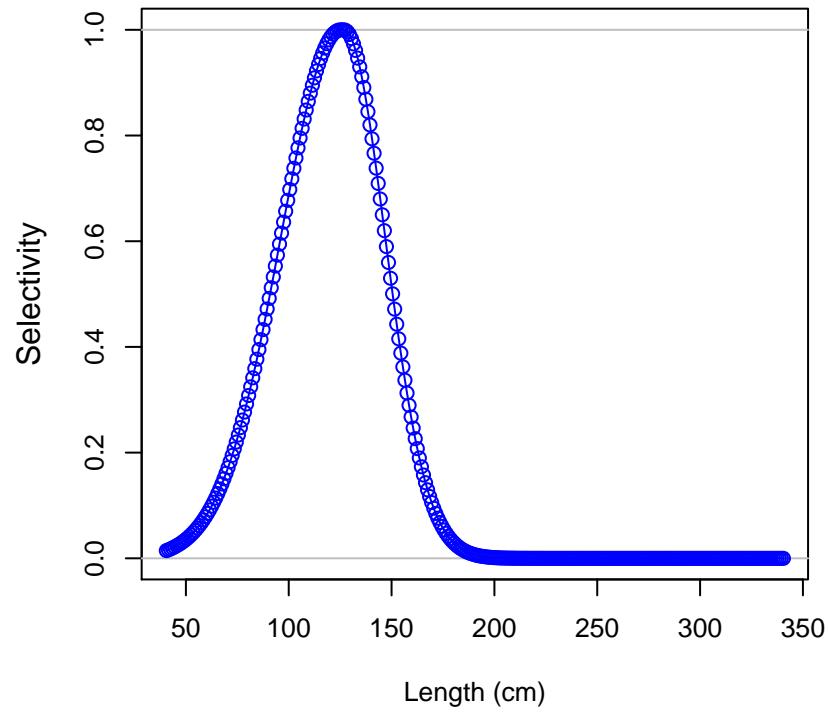
**Female ending year selectivity for F15\_MEX\_SOUL**



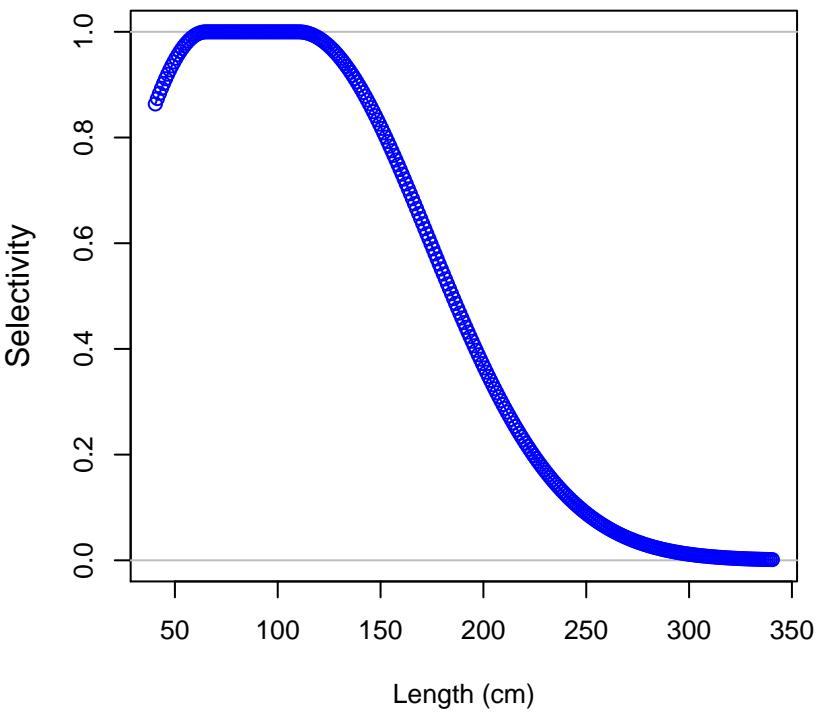
**Male ending year selectivity for F14\_MEX\_NOR**



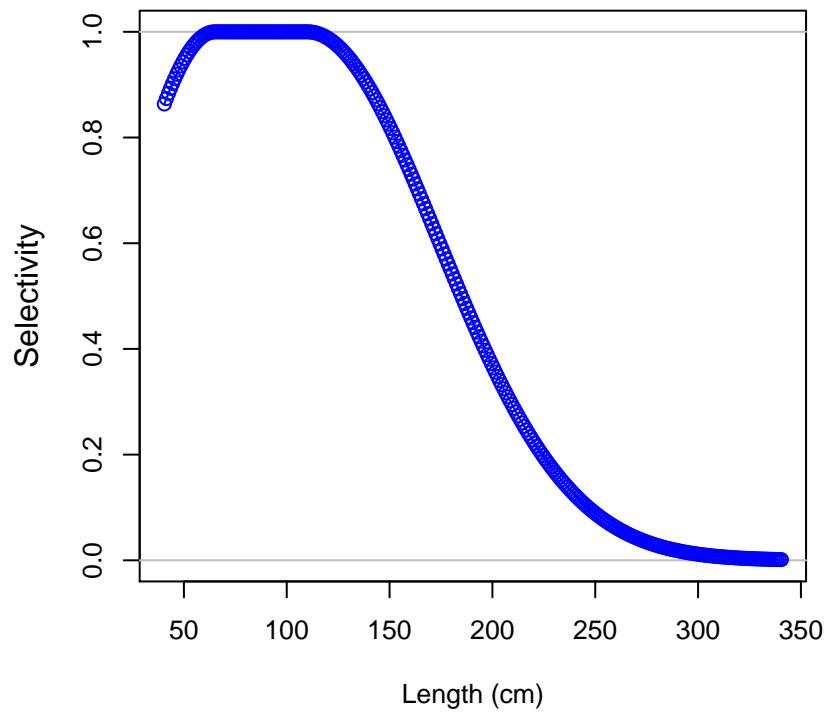
**Male ending year selectivity for F15\_MEX\_SOUL**



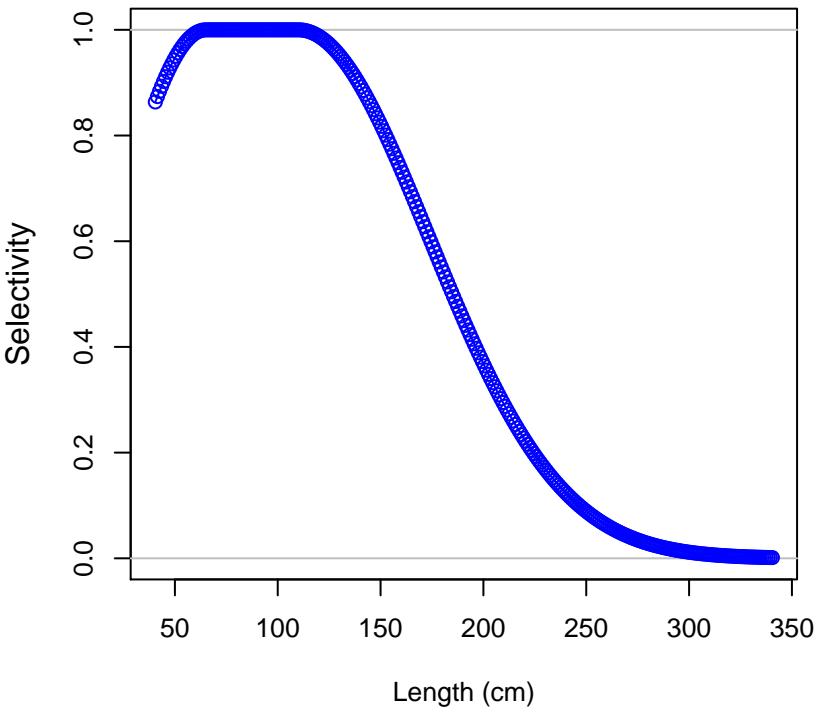
**Female ending year selectivity for F16\_WCPFC**



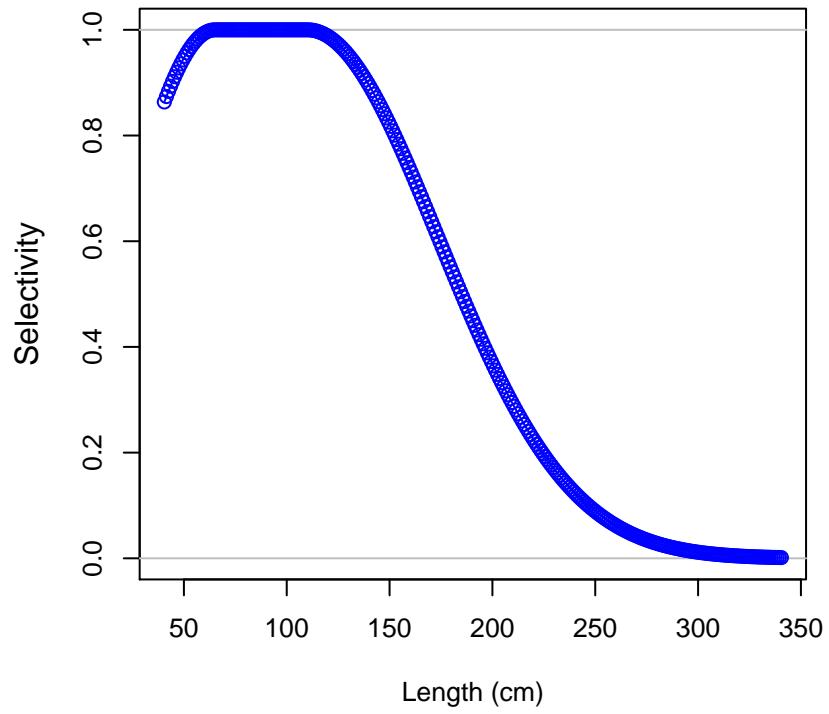
**Female ending year selectivity for F17\_IATTC**



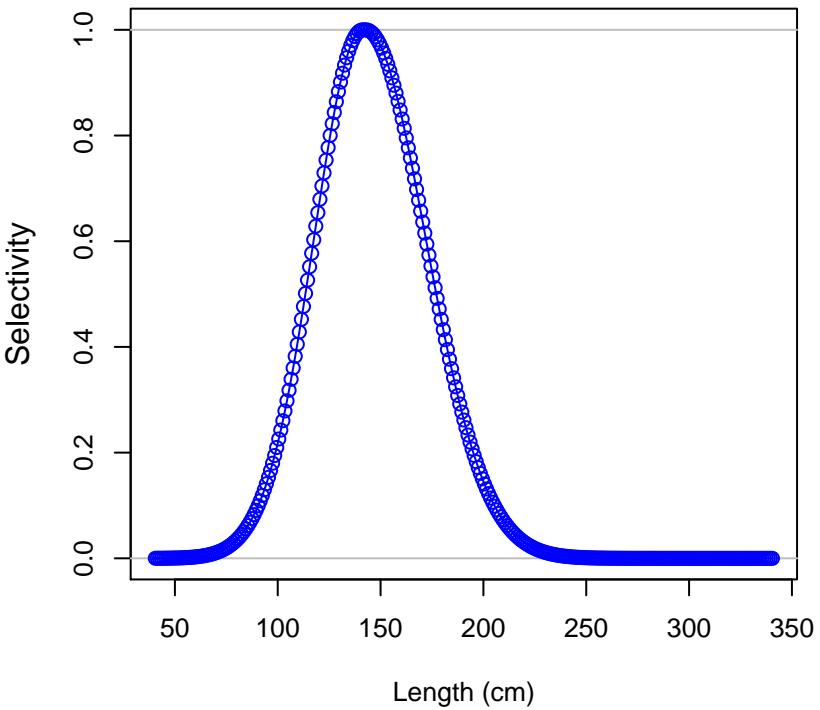
**Male ending year selectivity for F16\_WCPFC**



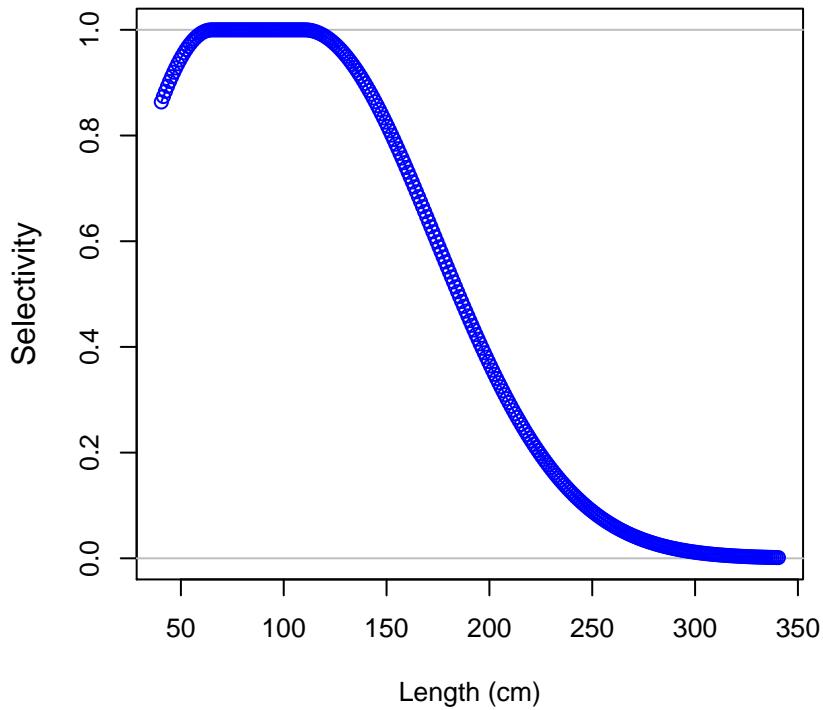
**Male ending year selectivity for F17\_IATTC**



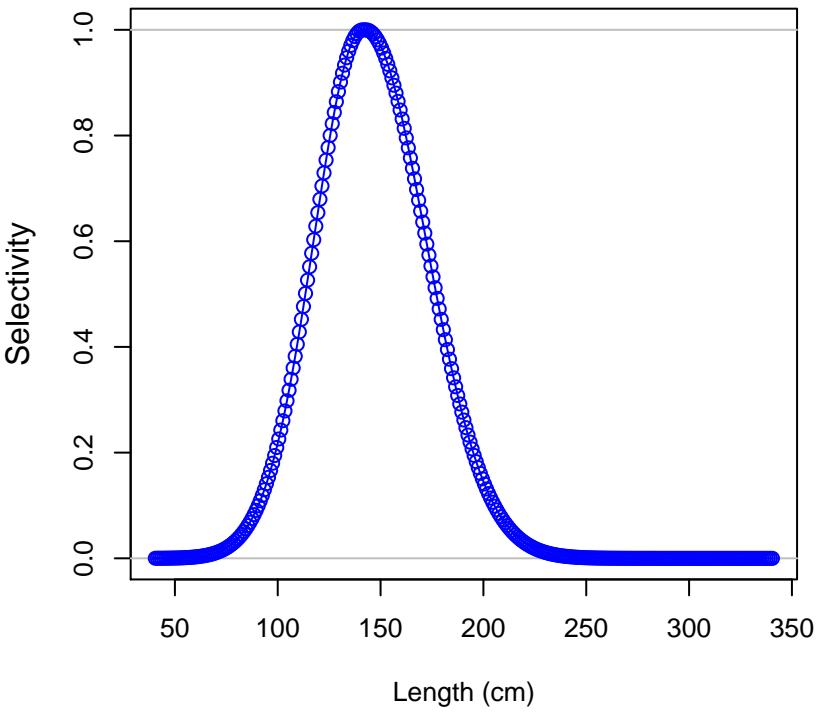
**Female ending year selectivity for F18\_JPN\_SSII**



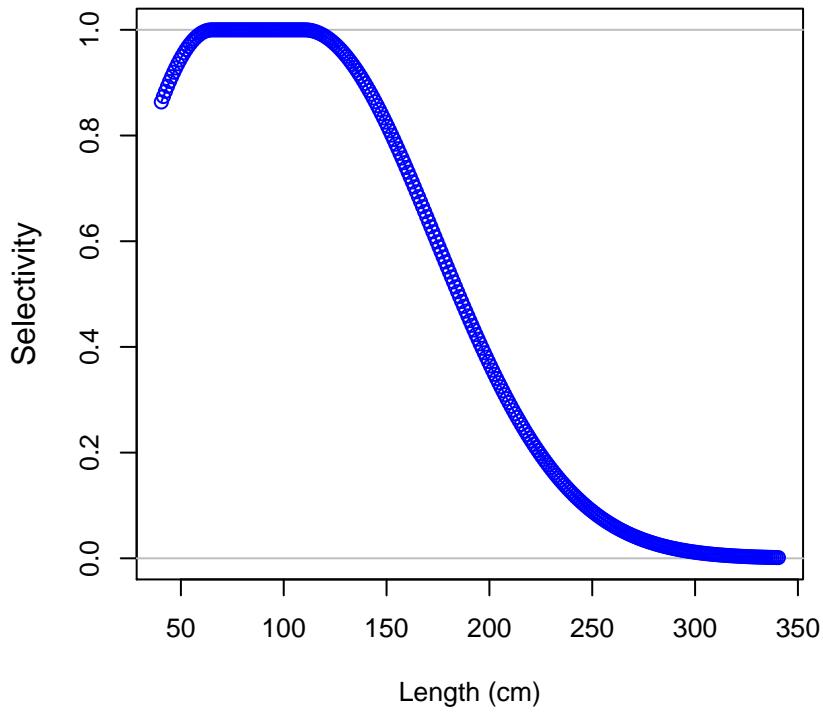
**Female ending year selectivity for S1\_US\_SS**



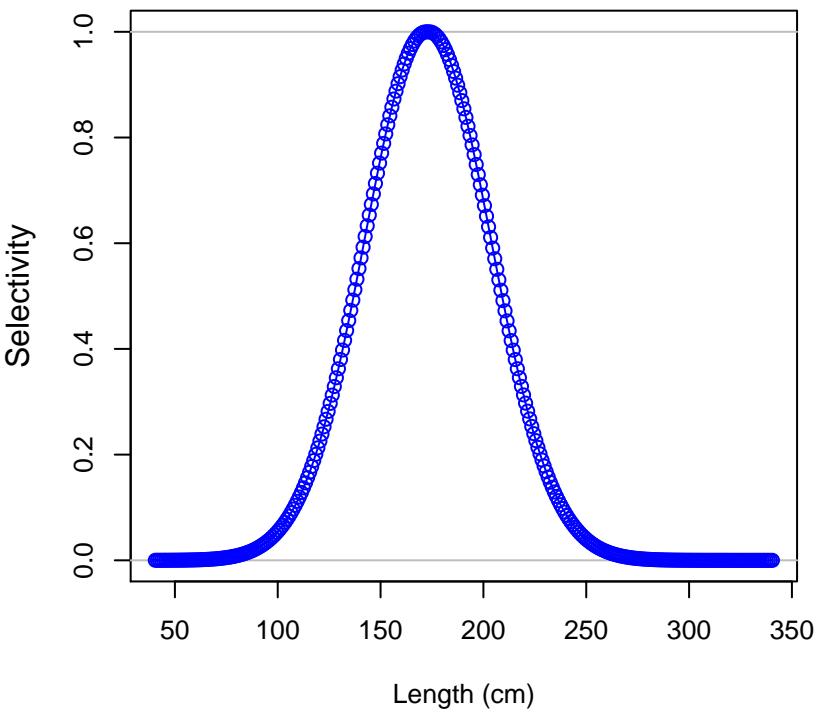
**Male ending year selectivity for F18\_JPN\_SSII**



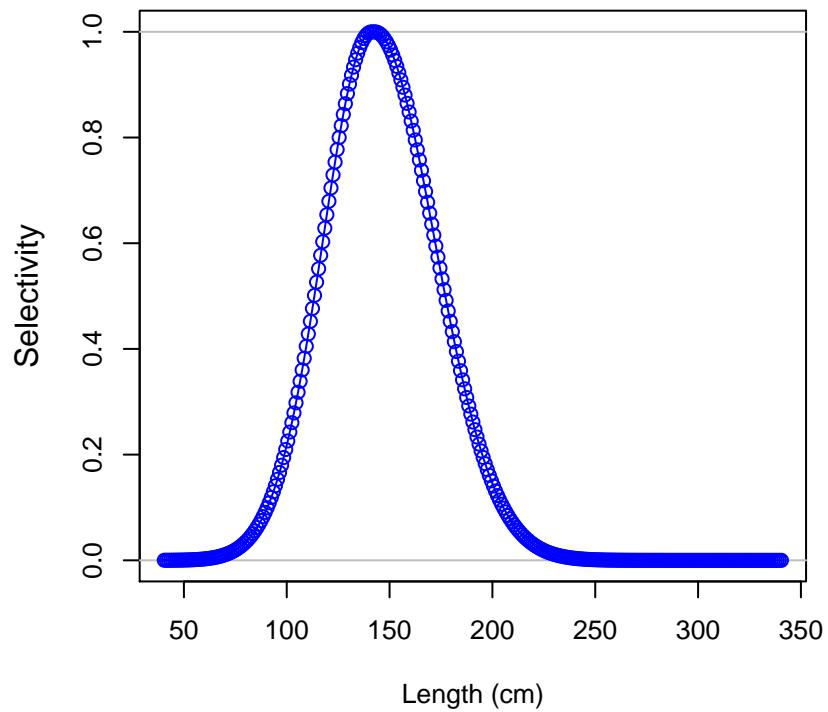
**Male ending year selectivity for S1\_US\_SS**



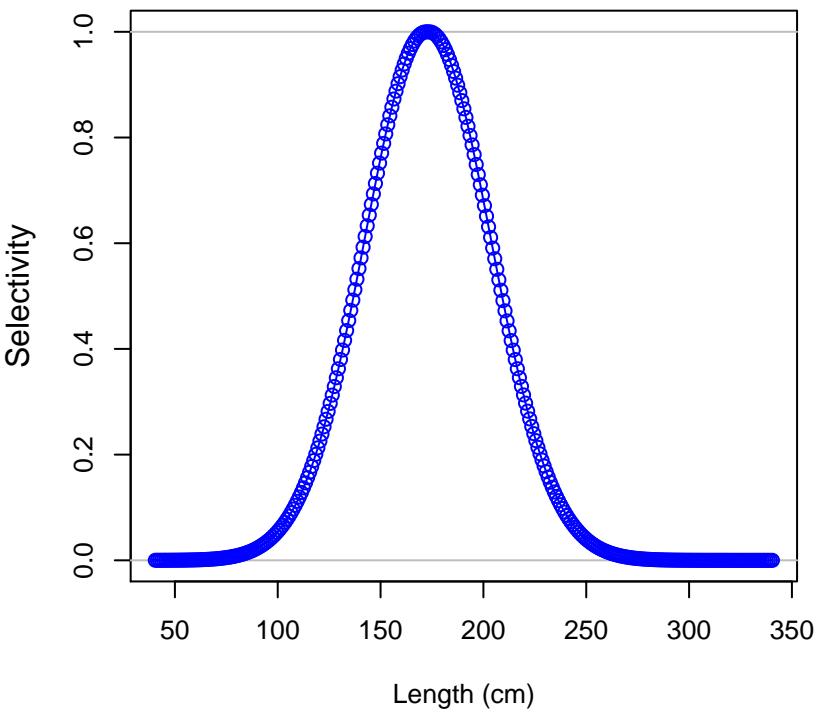
**Female ending year selectivity for S2\_US\_DS**



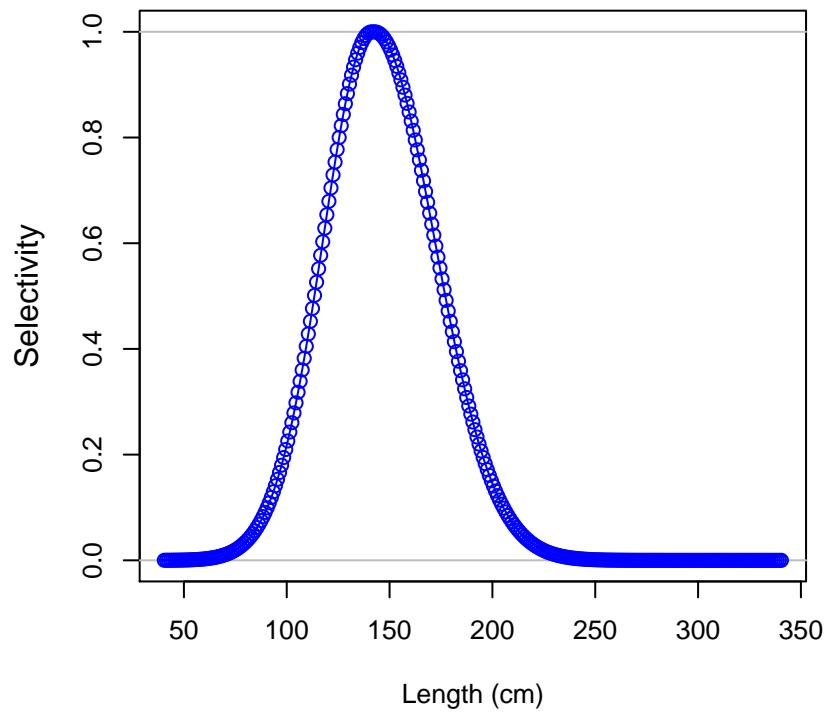
**Female ending year selectivity for S3\_TW\_LRG**



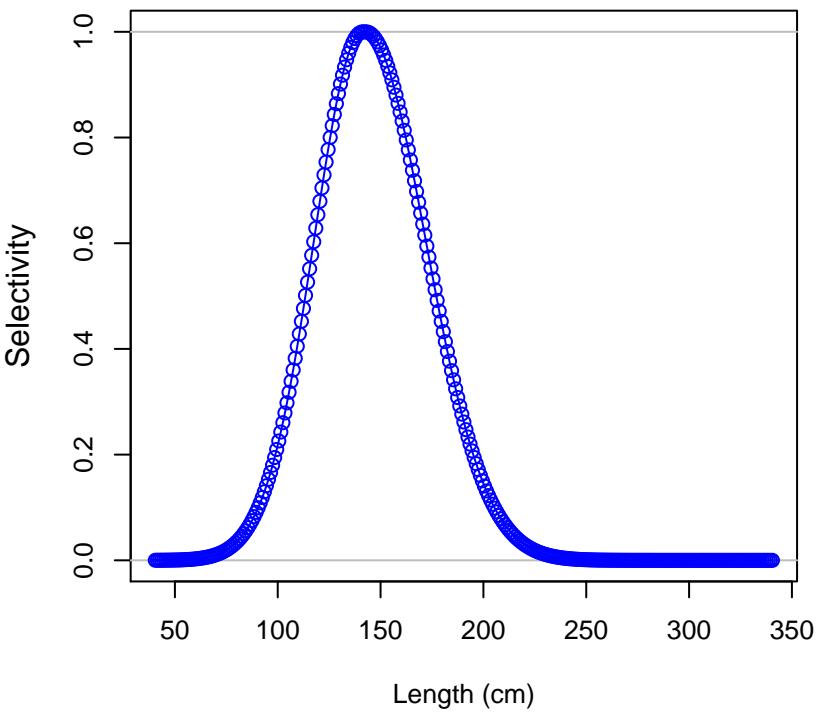
**Male ending year selectivity for S2\_US\_DS**



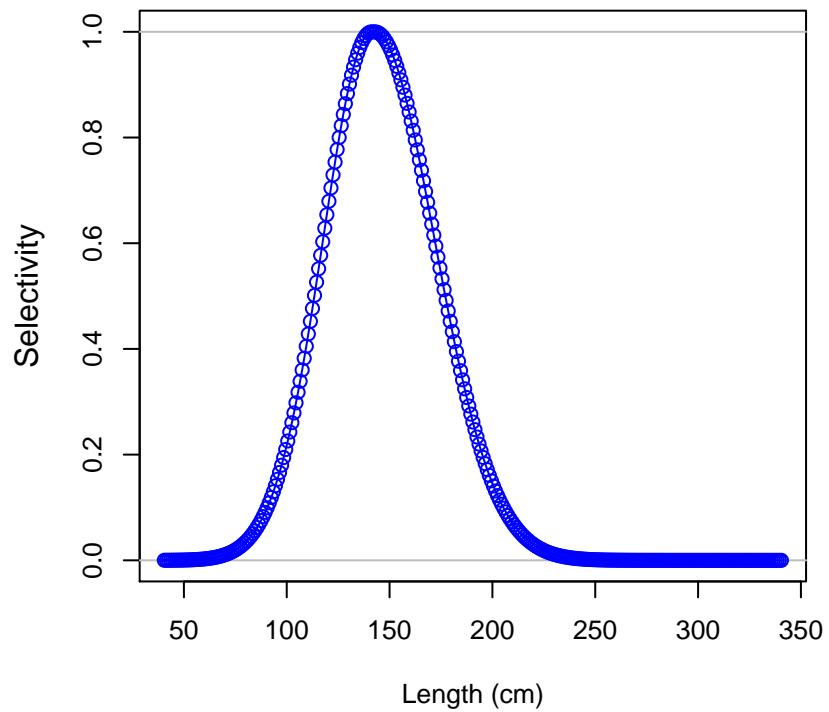
**Male ending year selectivity for S3\_TW\_LRG**



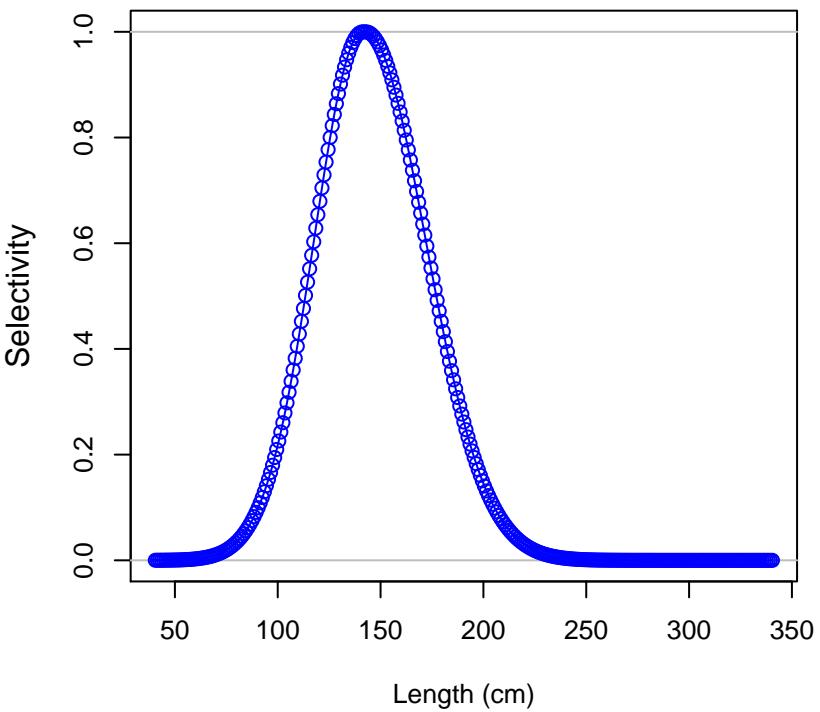
**Female ending year selectivity for S4\_JPN\_SS**



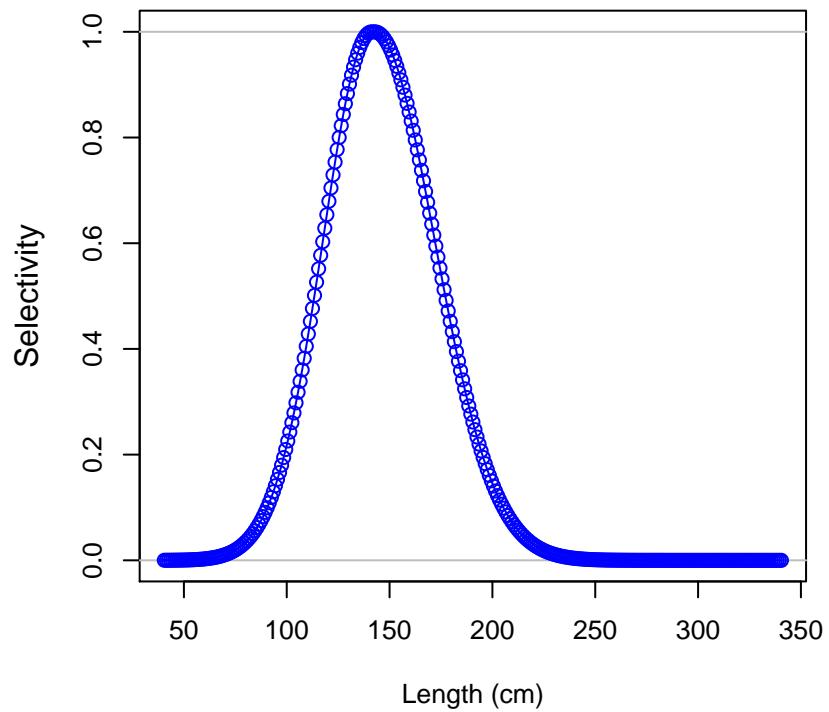
**Female ending year selectivity for S5\_JPN\_RTV**



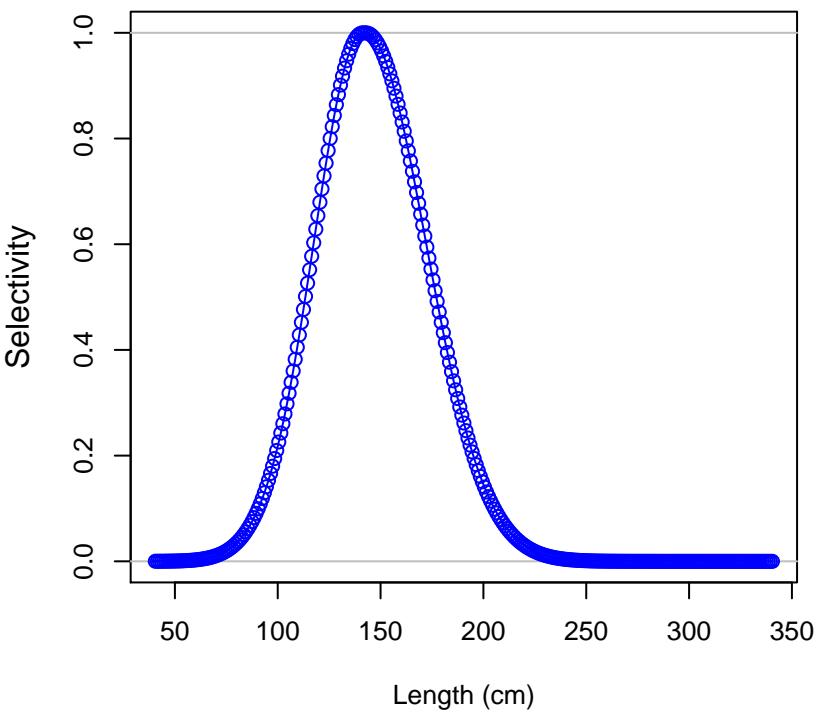
**Male ending year selectivity for S4\_JPN\_SS**



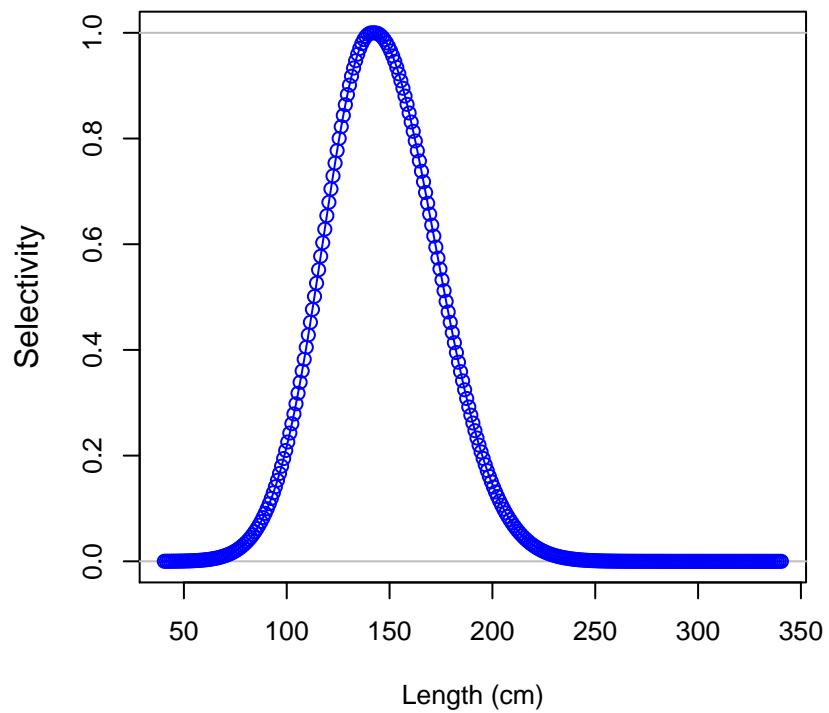
**Male ending year selectivity for S5\_JPN\_RTV**



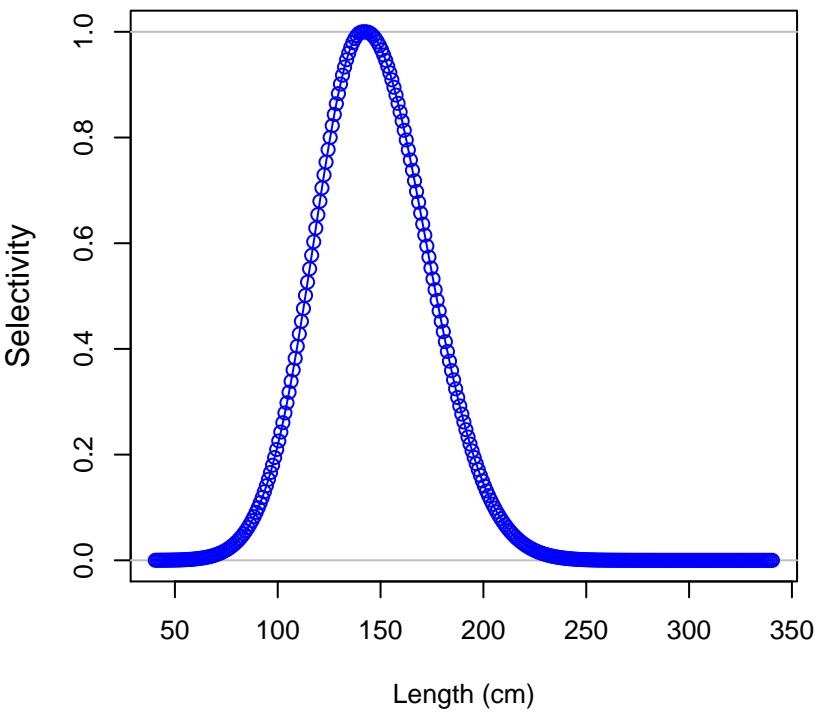
**Female ending year selectivity for S6\_JPN\_OBS**



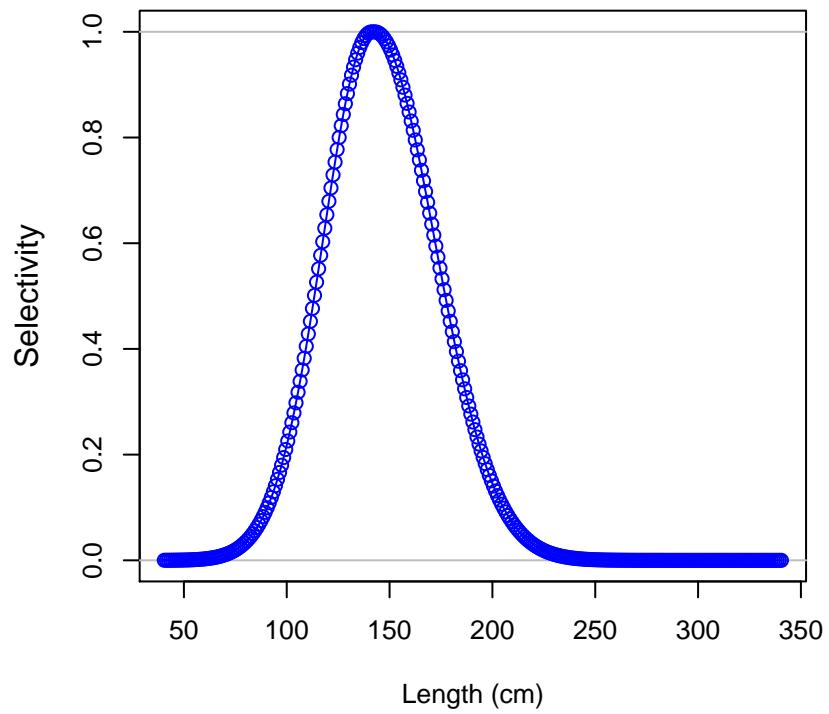
**Female ending year selectivity for S7\_JPN\_GEO**



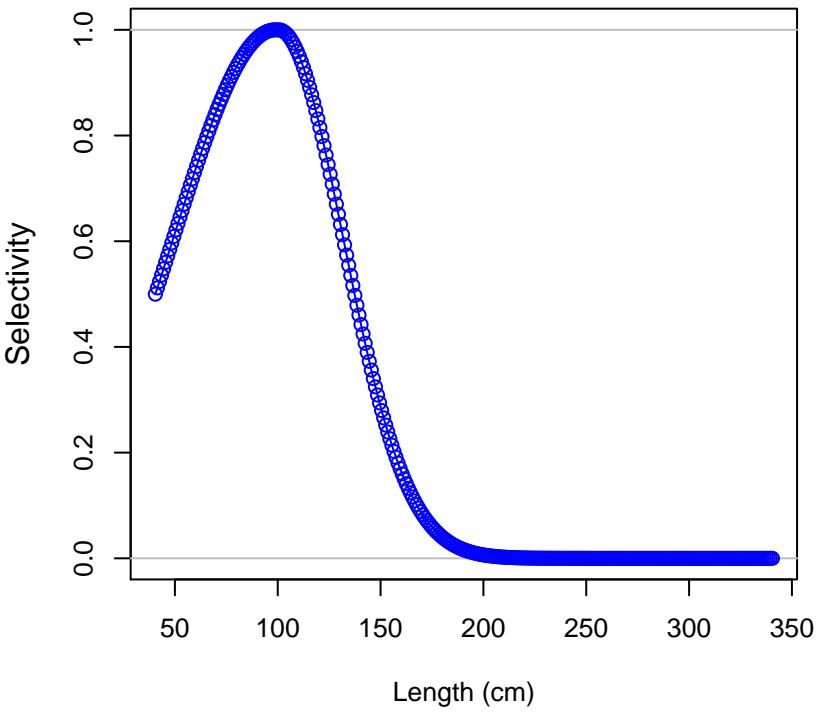
**Male ending year selectivity for S6\_JPN\_OBS**



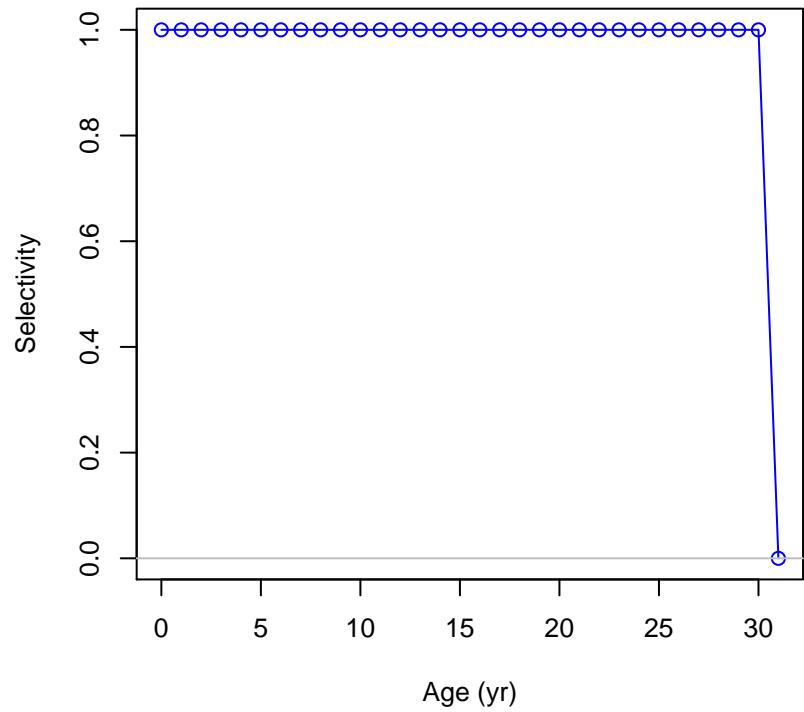
**Male ending year selectivity for S7\_JPN\_GEO**



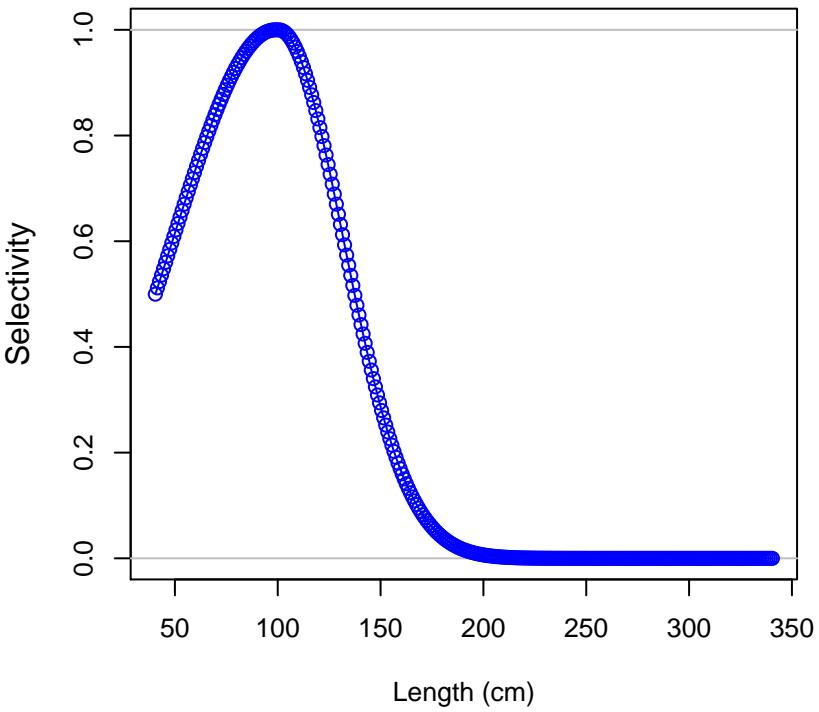
**Female ending year selectivity for S8\_MEX**



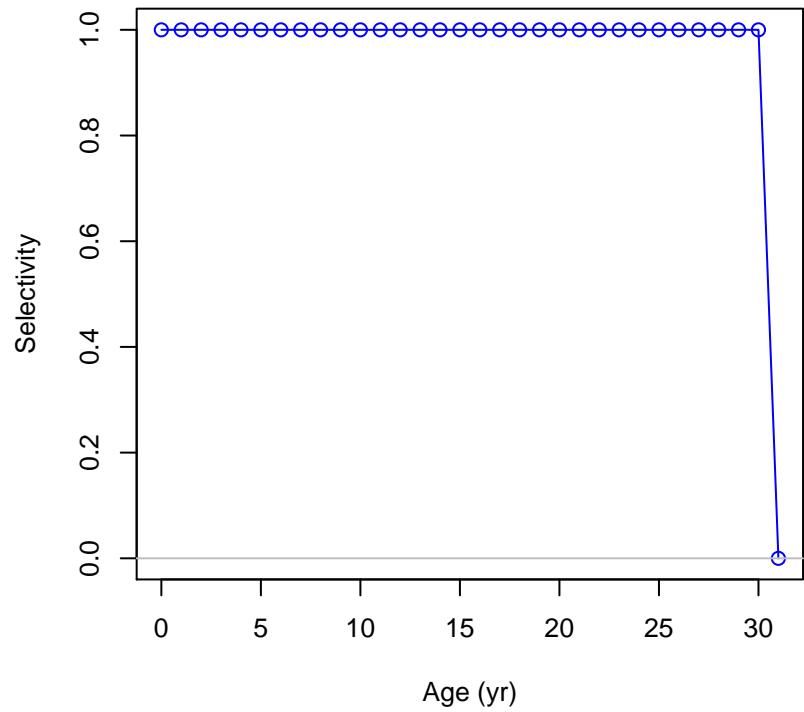
**Female ending year selectivity for F1\_US\_CA**



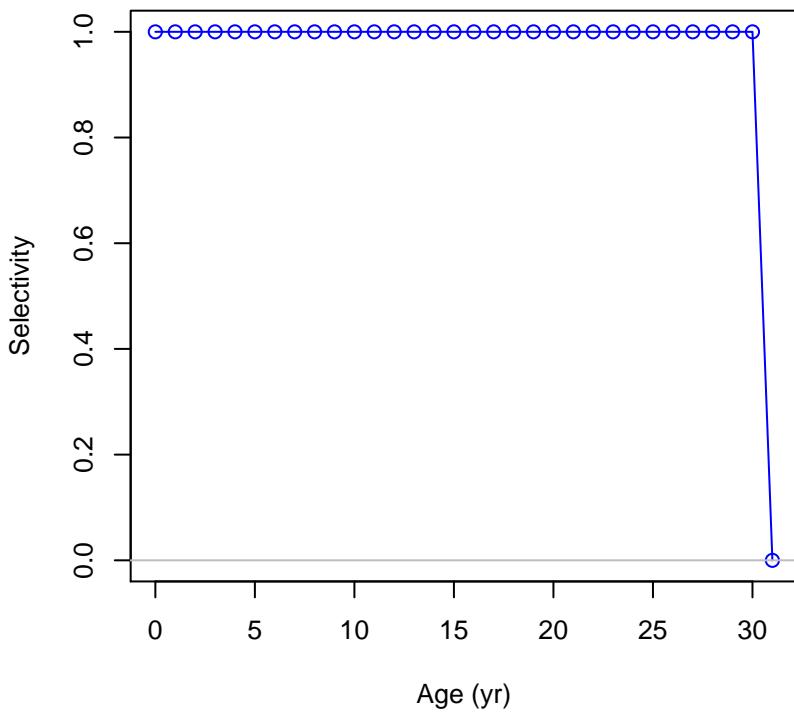
**Male ending year selectivity for S8\_MEX**



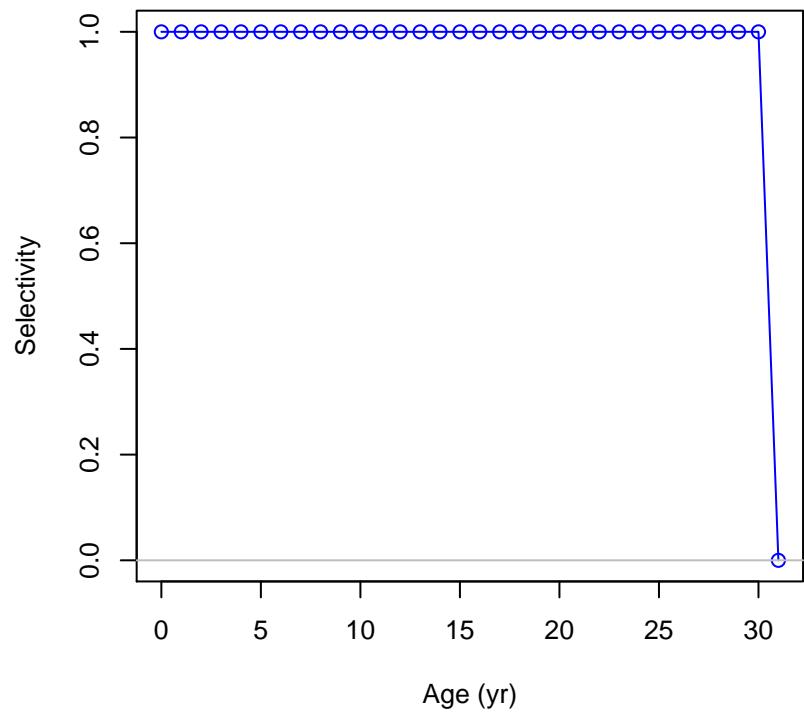
**Male ending year selectivity for F1\_US\_CA**



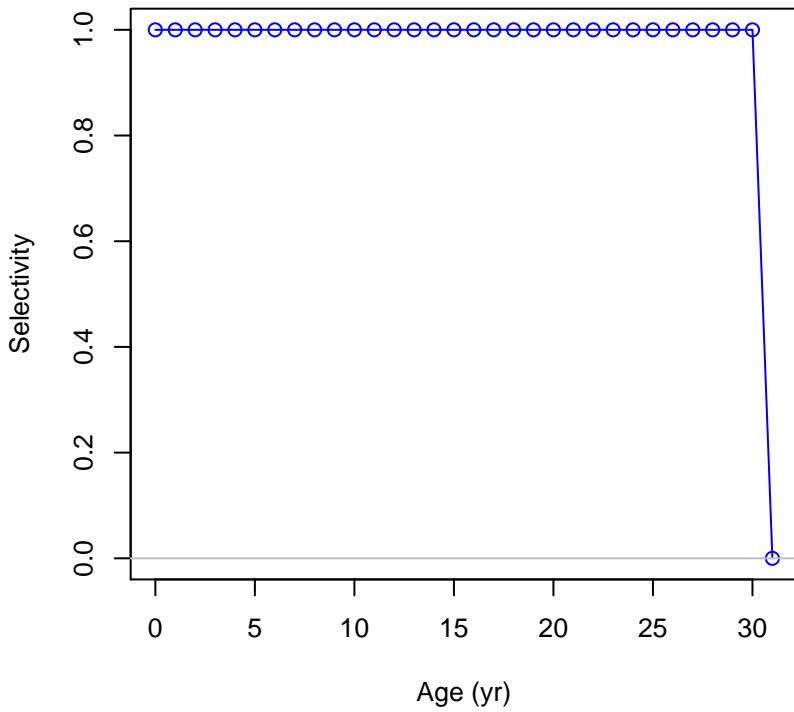
**Female ending year selectivity for F2\_US\_HI\_SS**



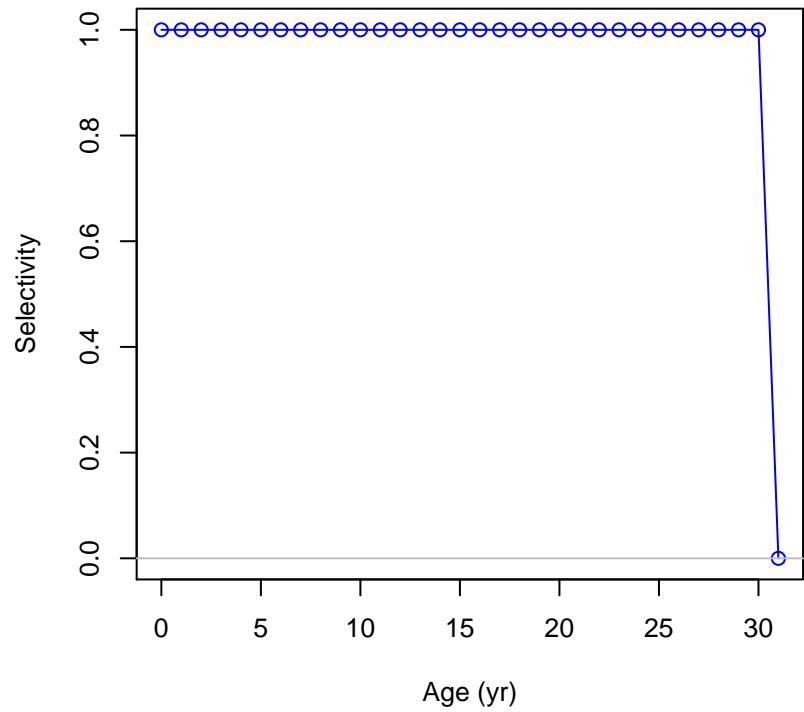
**Female ending year selectivity for F3\_US\_HI\_DS**



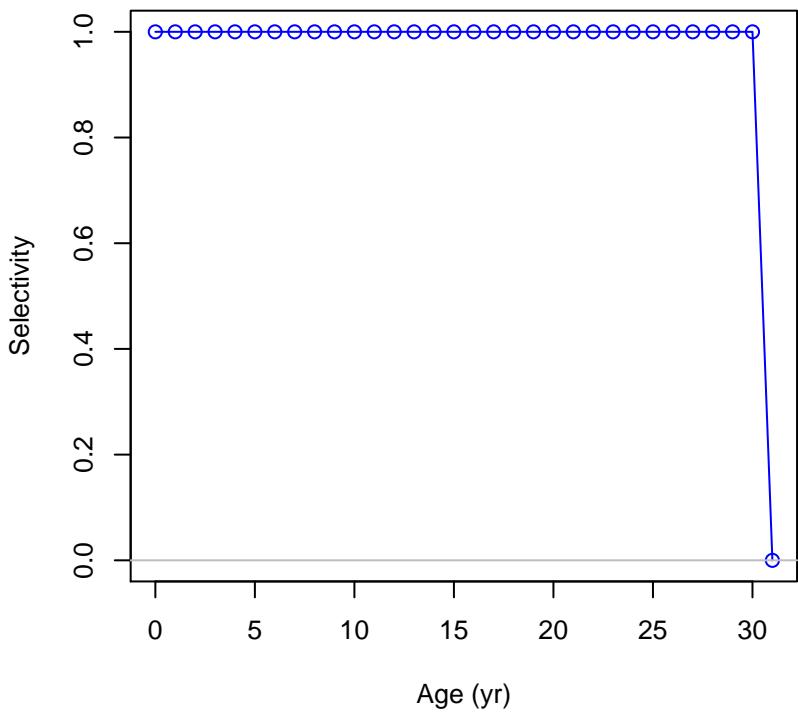
**Male ending year selectivity for F2\_US\_HI\_SS**



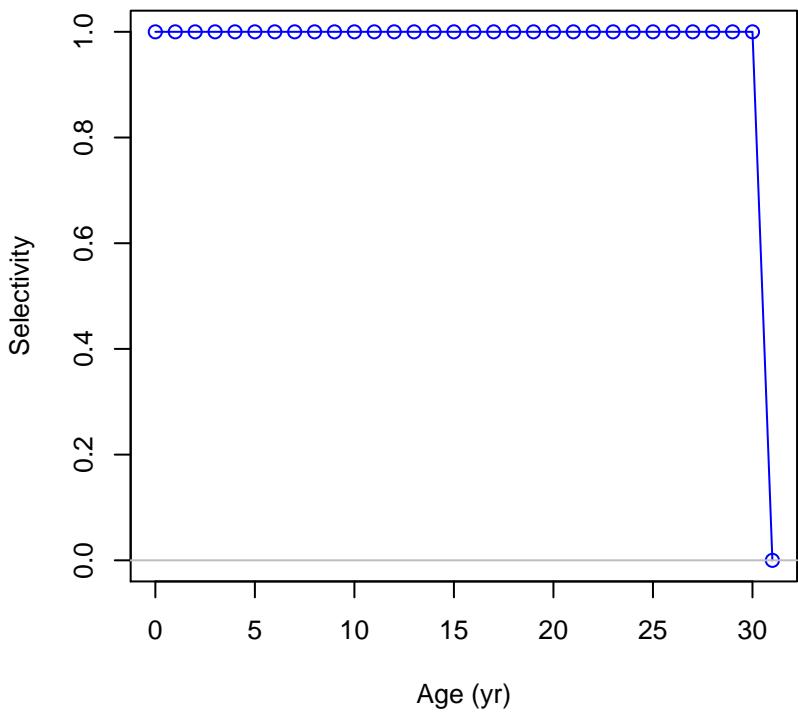
**Male ending year selectivity for F3\_US\_HI\_DS**



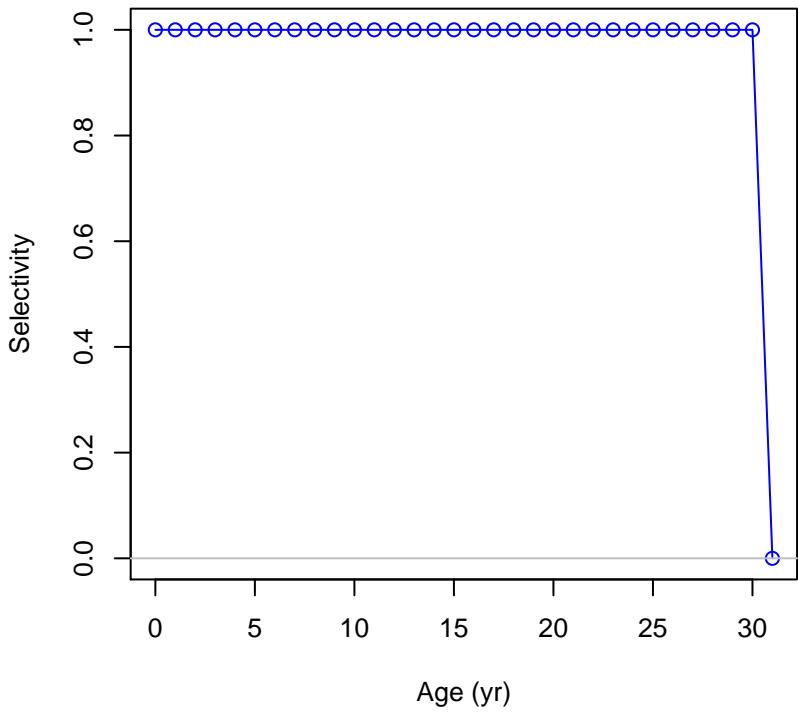
**Female ending year selectivity for F4\_US\_DGN**



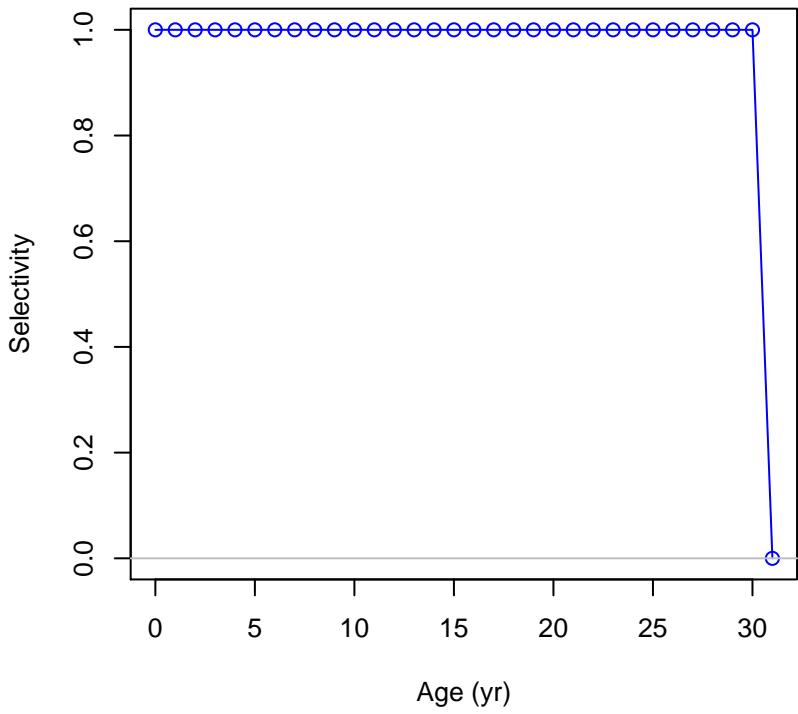
**Female ending year selectivity for F5\_US\_REC**



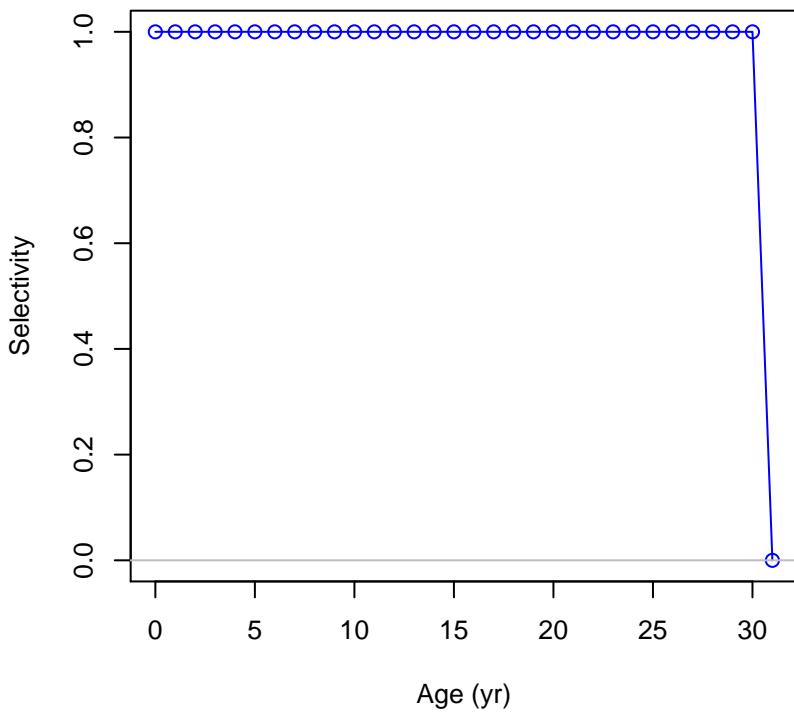
**Male ending year selectivity for F4\_US\_DGN**



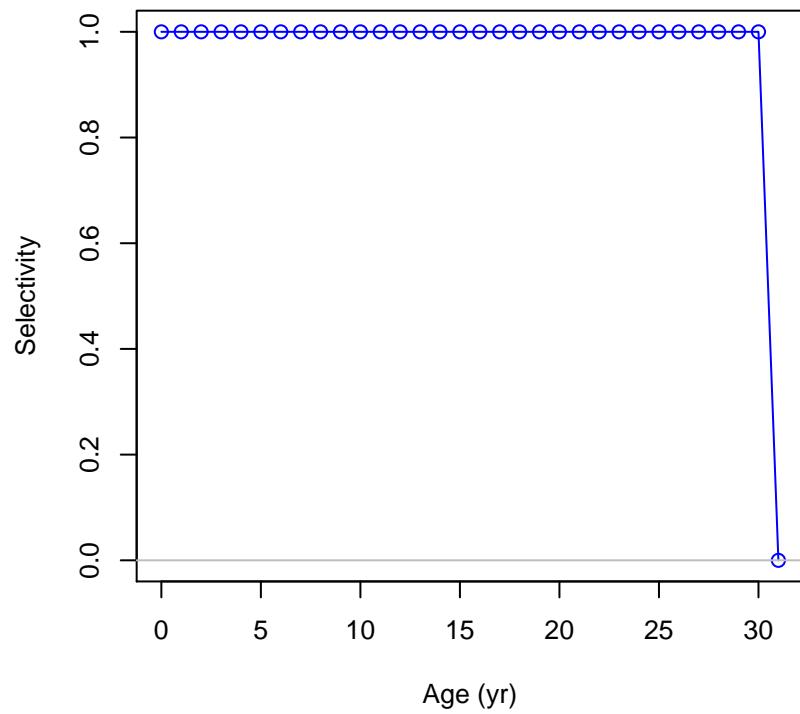
**Male ending year selectivity for F5\_US\_REC**



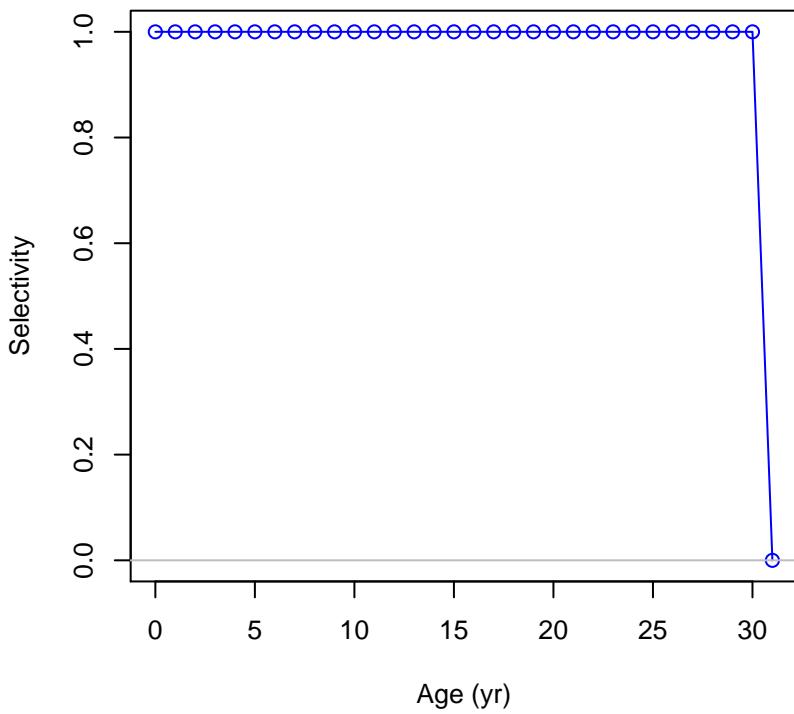
**Female ending year selectivity for F6\_TW\_LRG\_N**



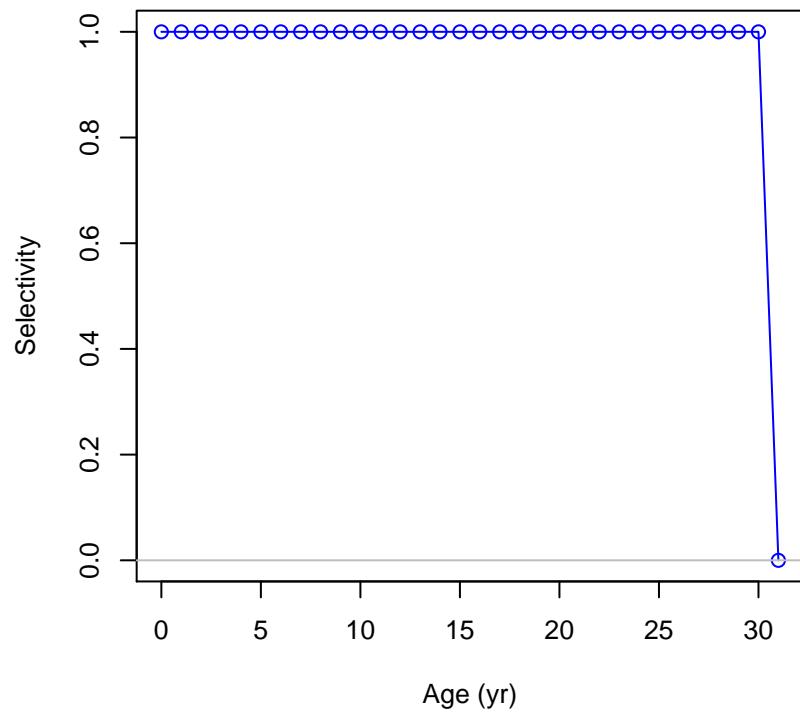
**Female ending year selectivity for F7\_TW\_LRG\_S**



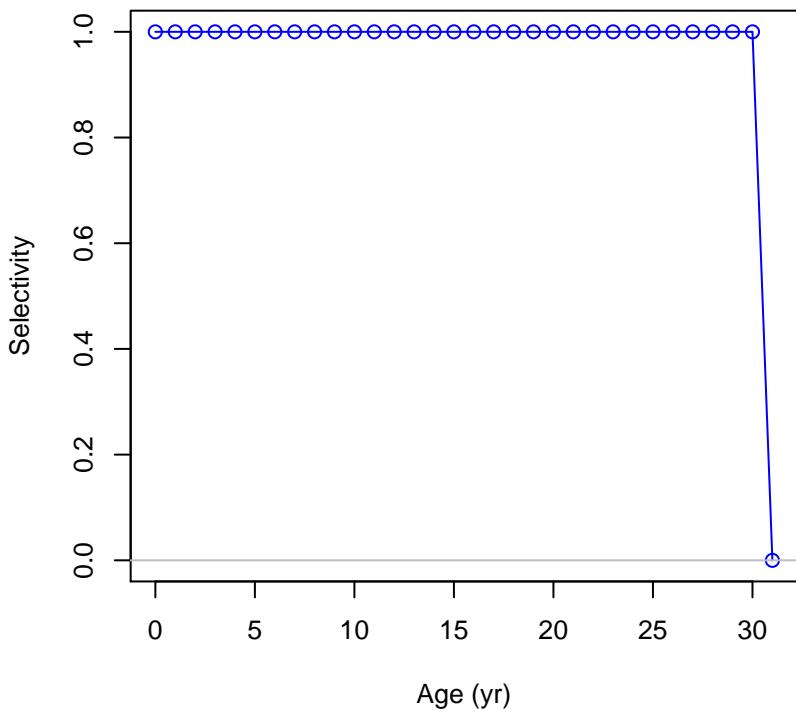
**Male ending year selectivity for F6\_TW\_LRG\_N**



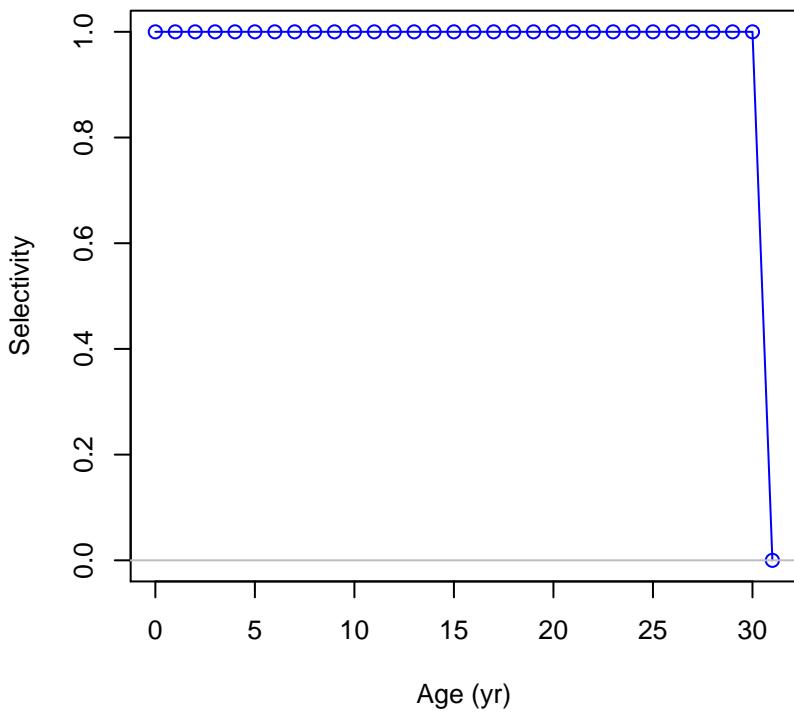
**Male ending year selectivity for F7\_TW\_LRG\_S**



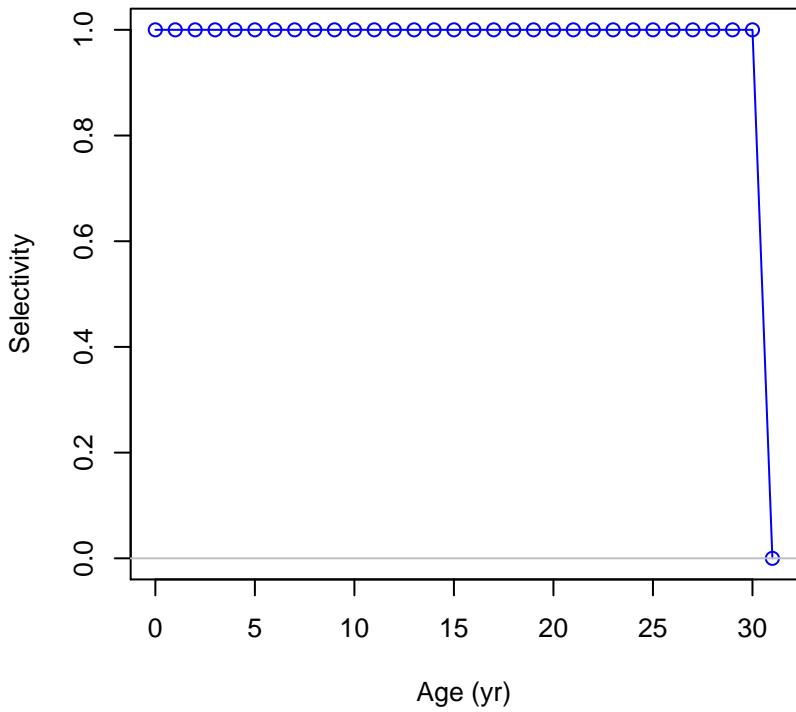
**Female ending year selectivity for F8\_TW\_SML**



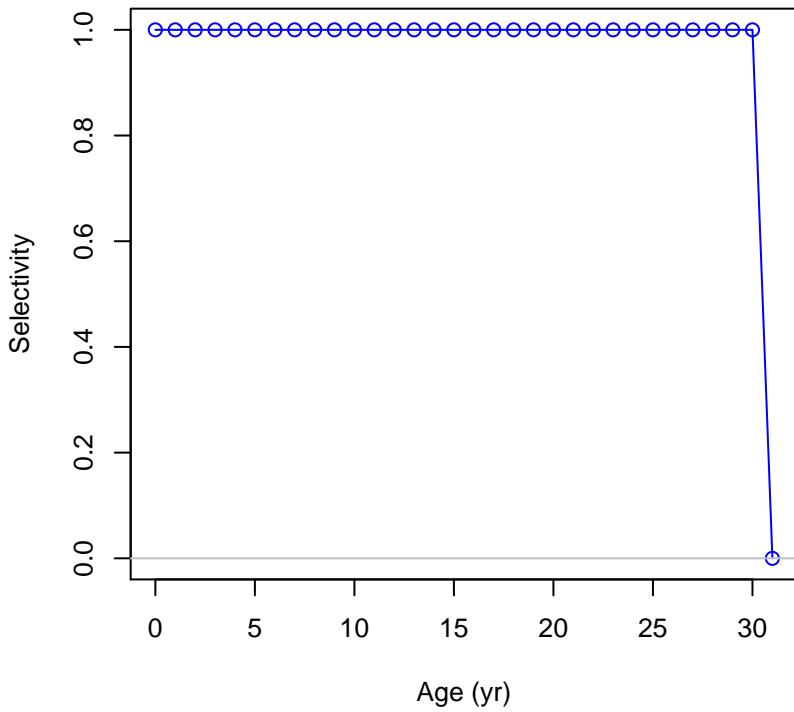
**Female ending year selectivity for F9\_JPN\_SS**



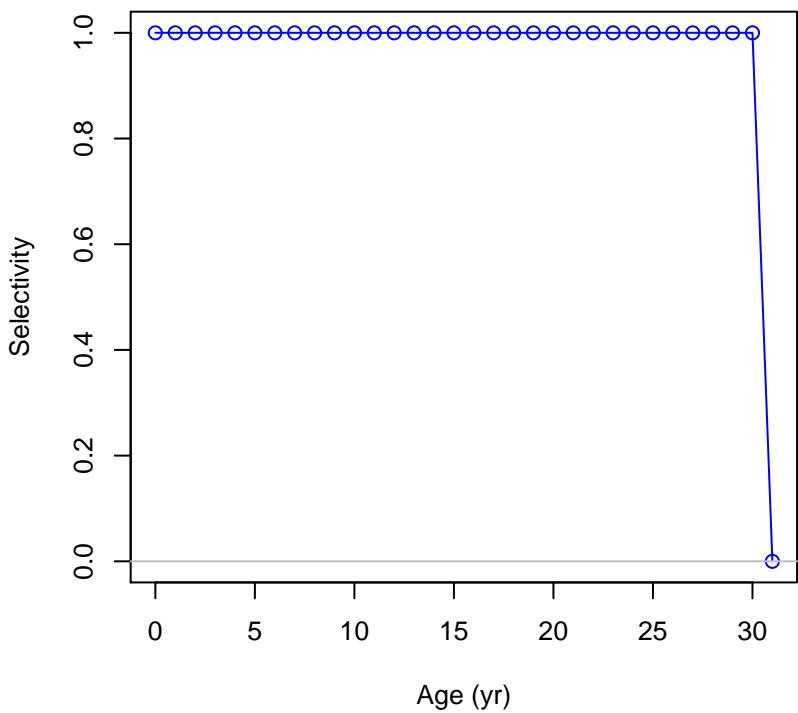
**Male ending year selectivity for F8\_TW\_SML**



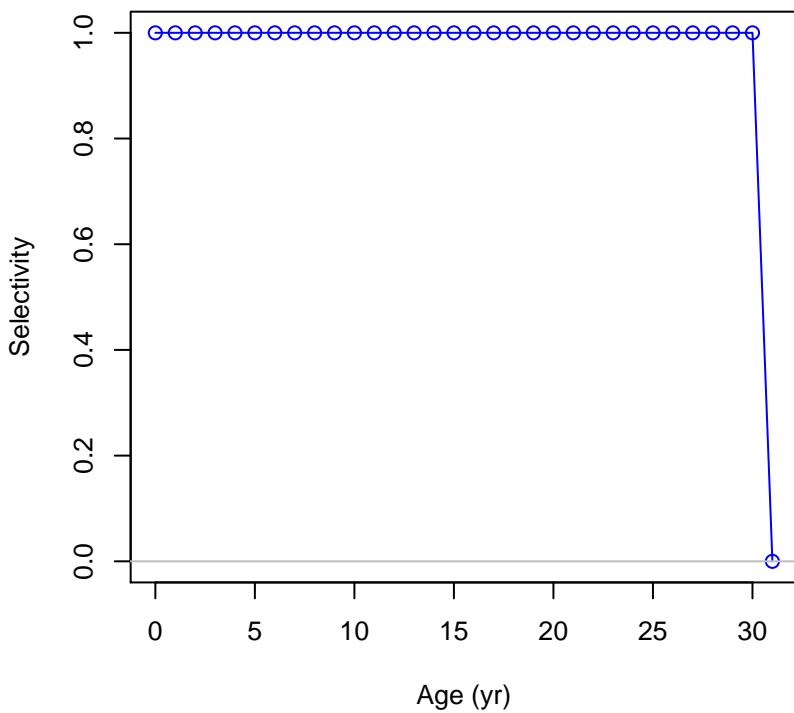
**Male ending year selectivity for F9\_JPN\_SS**



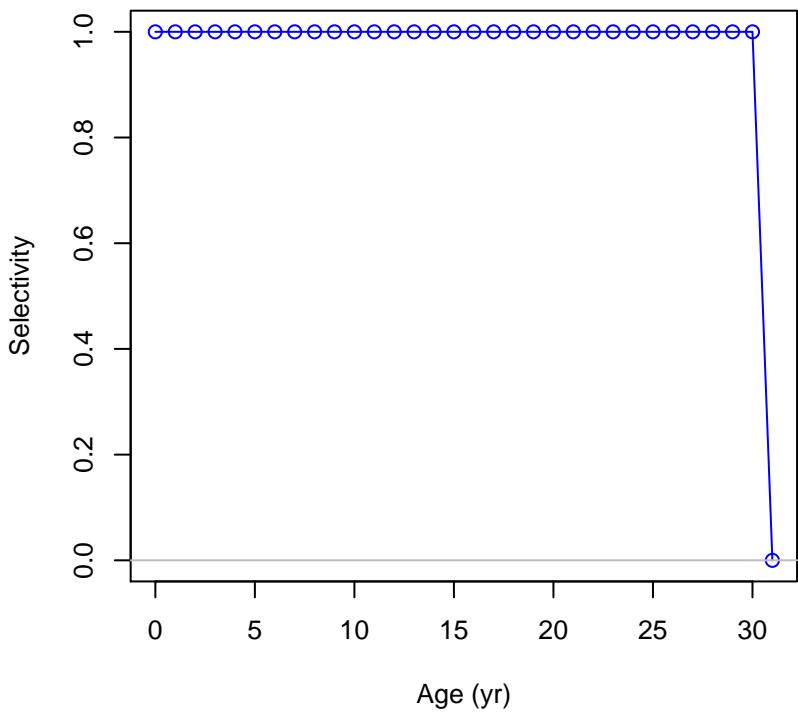
**Female ending year selectivity for F10\_JPN\_DS**



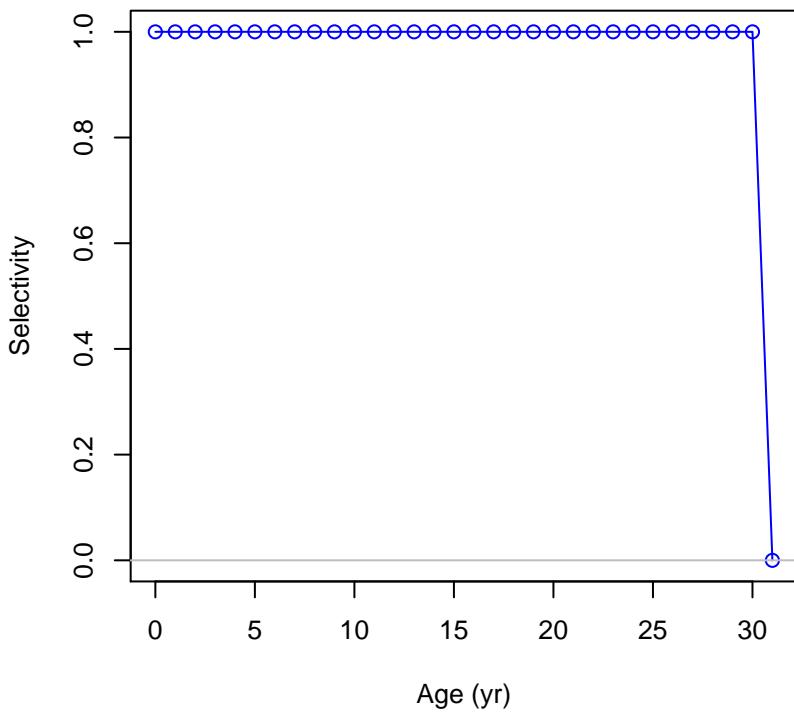
**Female ending year selectivity for F11\_JPN\_CST**



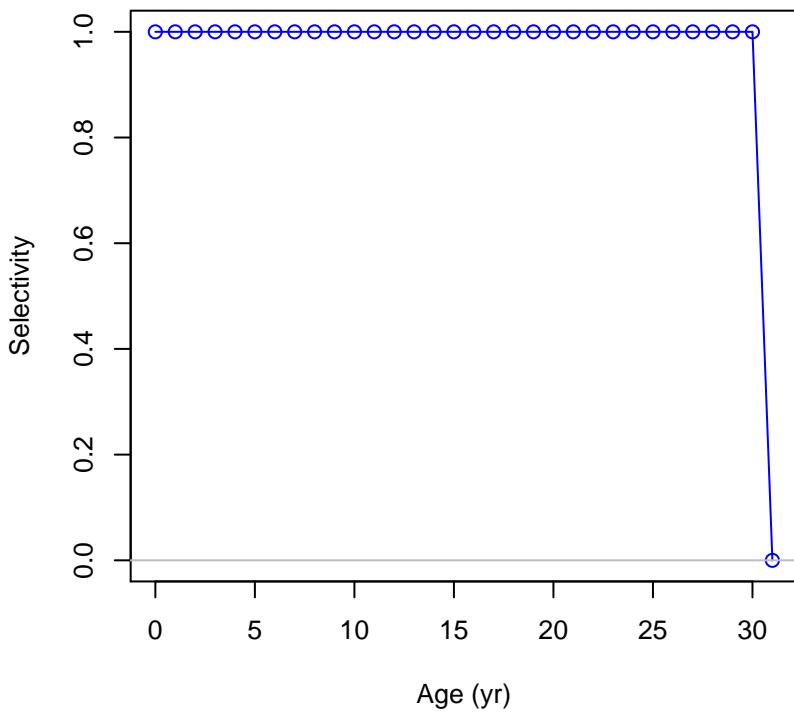
**Male ending year selectivity for F10\_JPN\_DS**



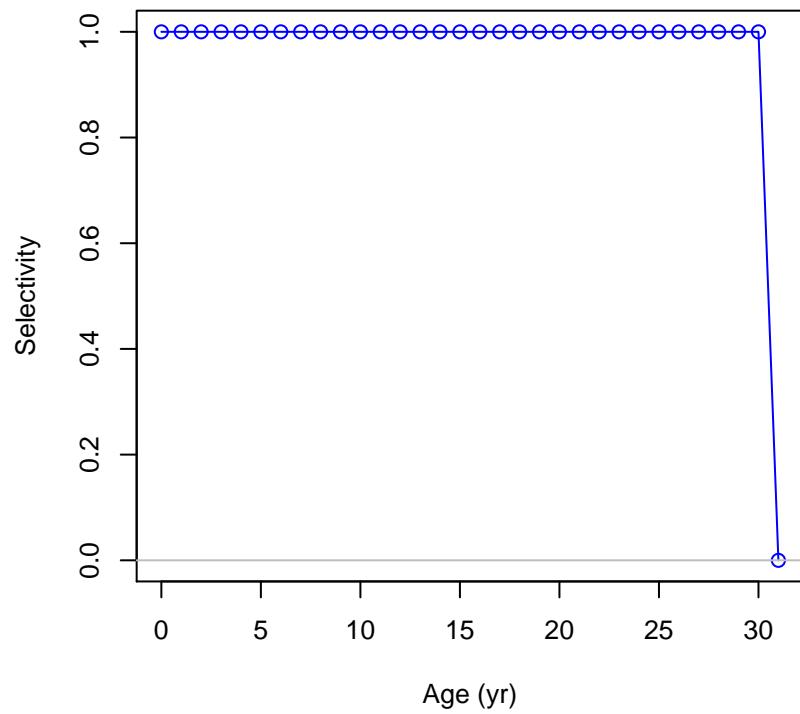
**Male ending year selectivity for F11\_JPN\_CST**



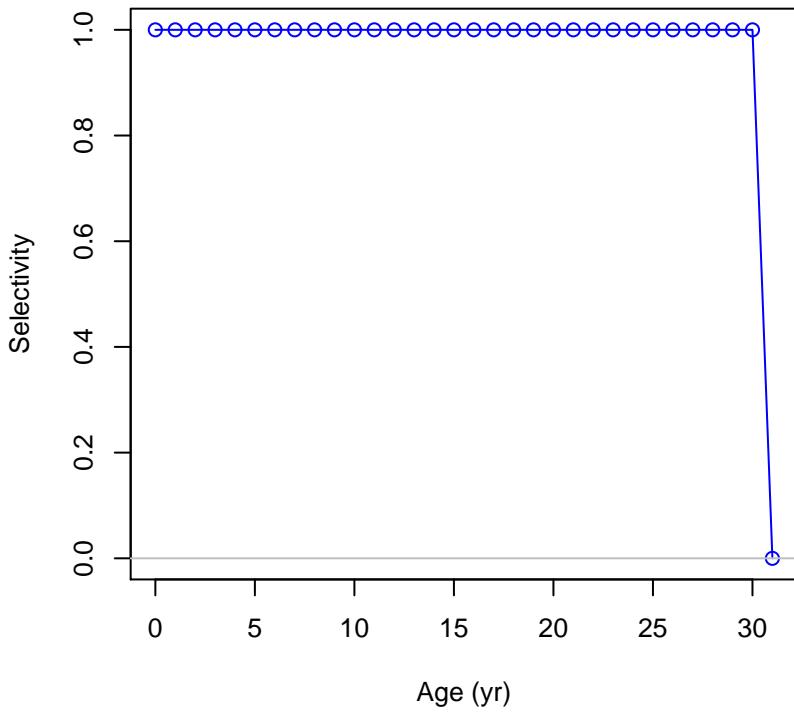
**Female ending year selectivity for F12\_JPN\_DFN**



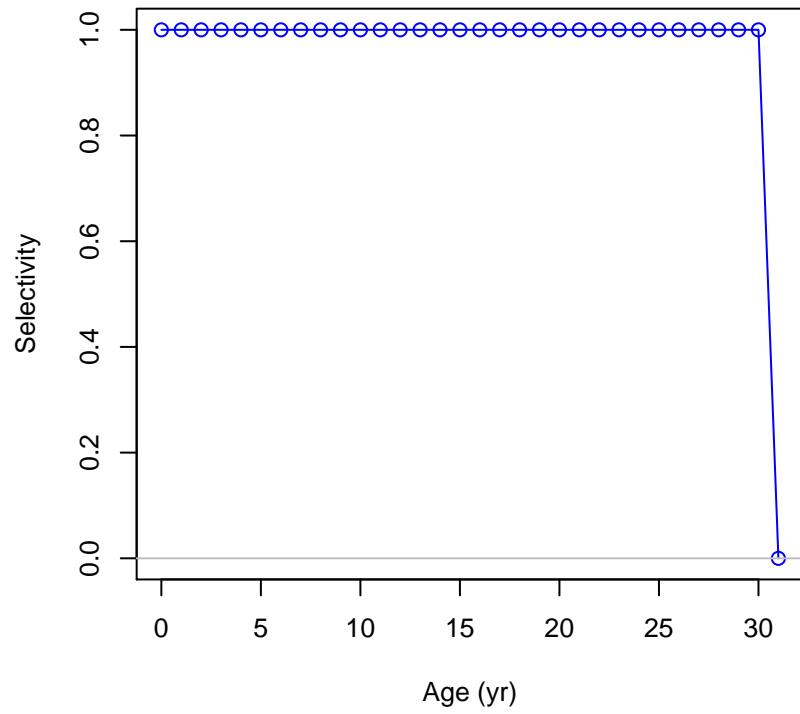
**Female ending year selectivity for F13\_JPN\_OTH**



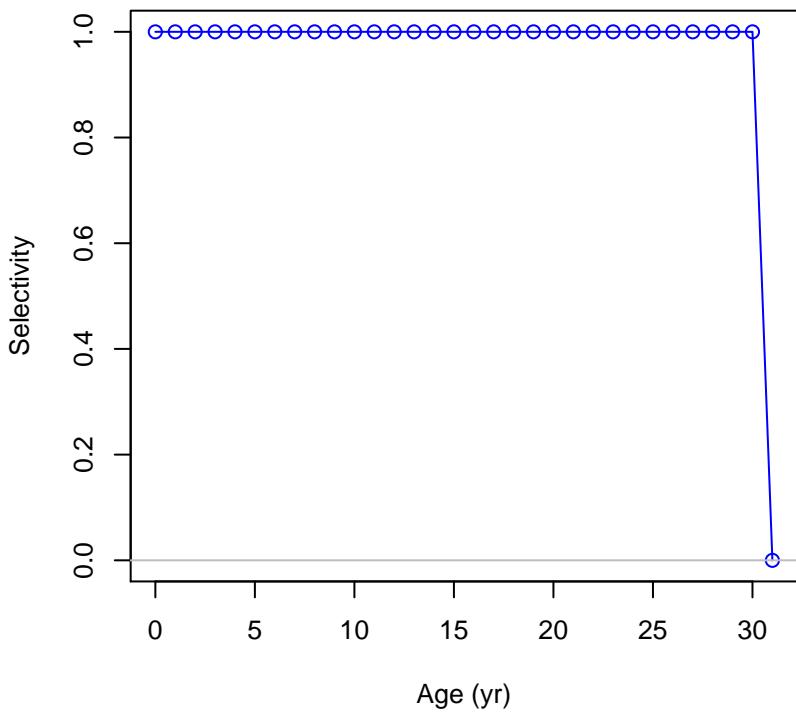
**Male ending year selectivity for F12\_JPN\_DFN**



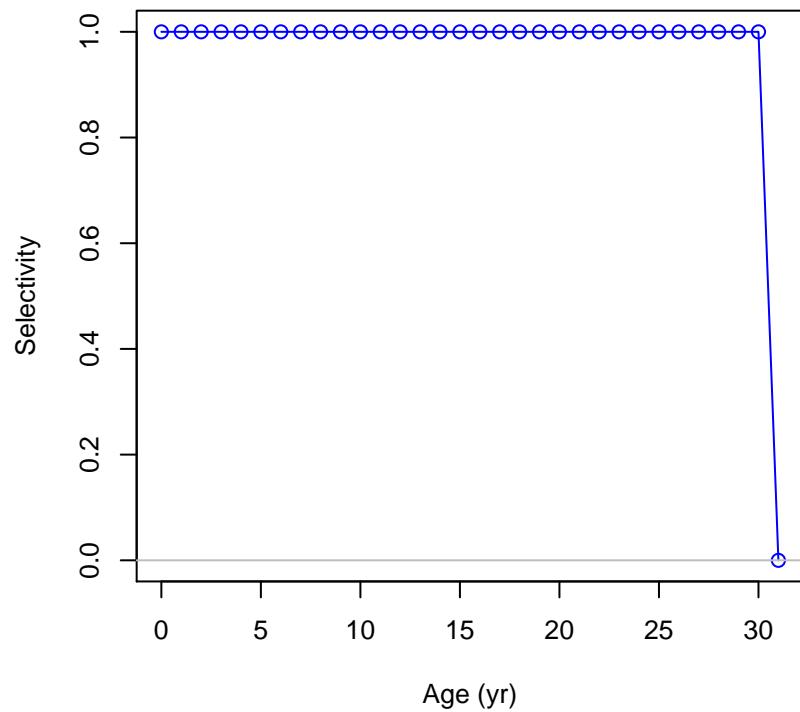
**Male ending year selectivity for F13\_JPN\_OTH**



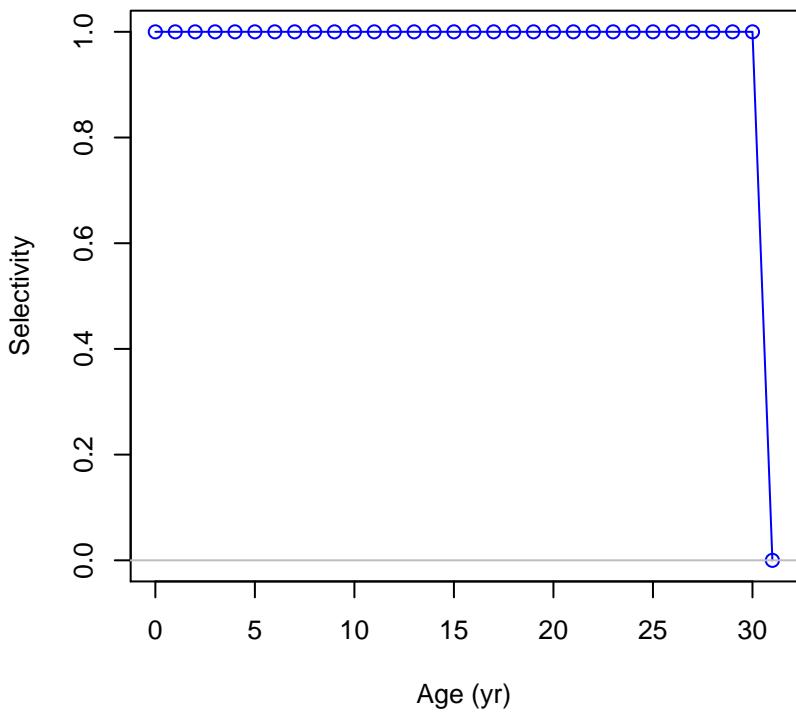
**Female ending year selectivity for F14\_MEX\_NOR**



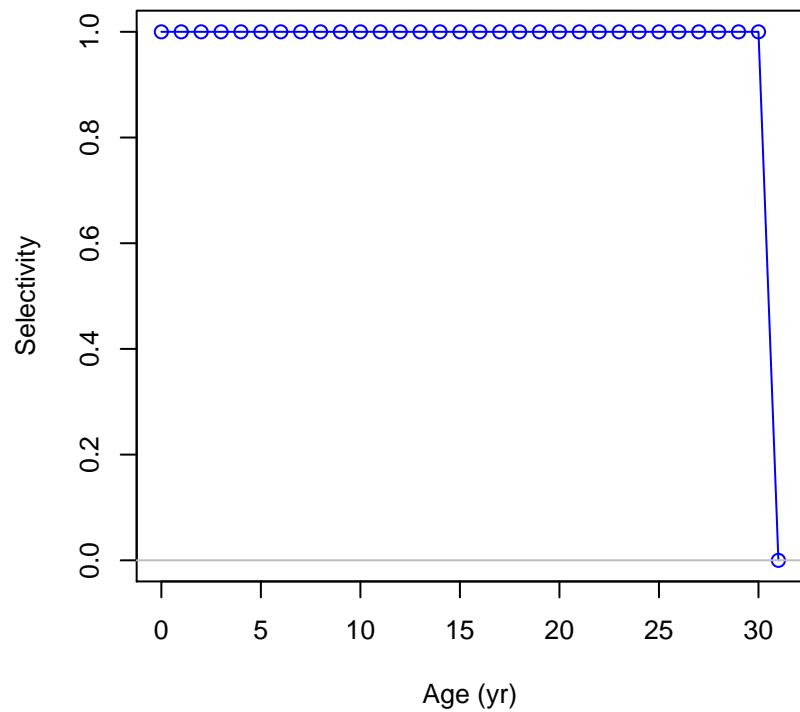
**Female ending year selectivity for F15\_MEX\_SOU**



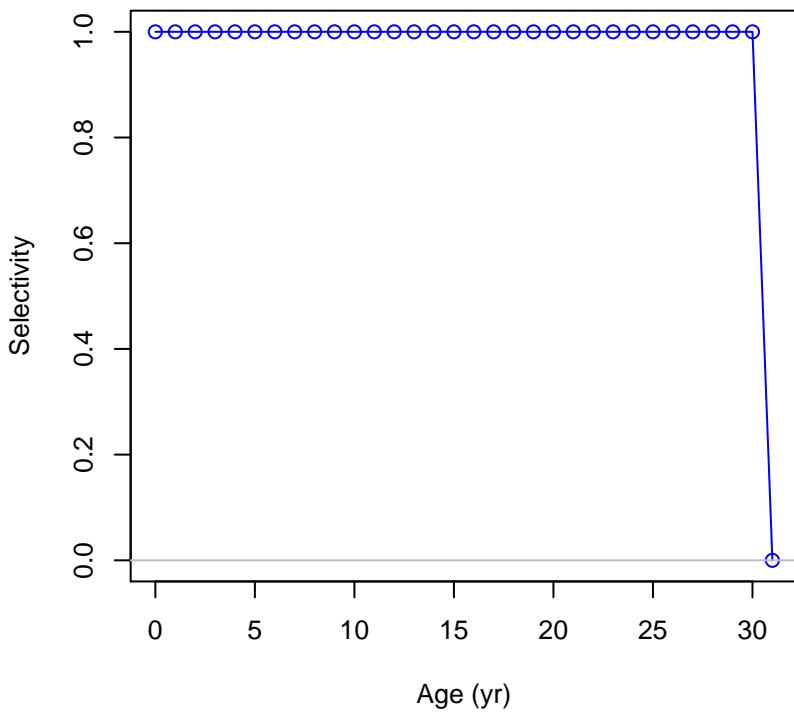
**Male ending year selectivity for F14\_MEX\_NOR**



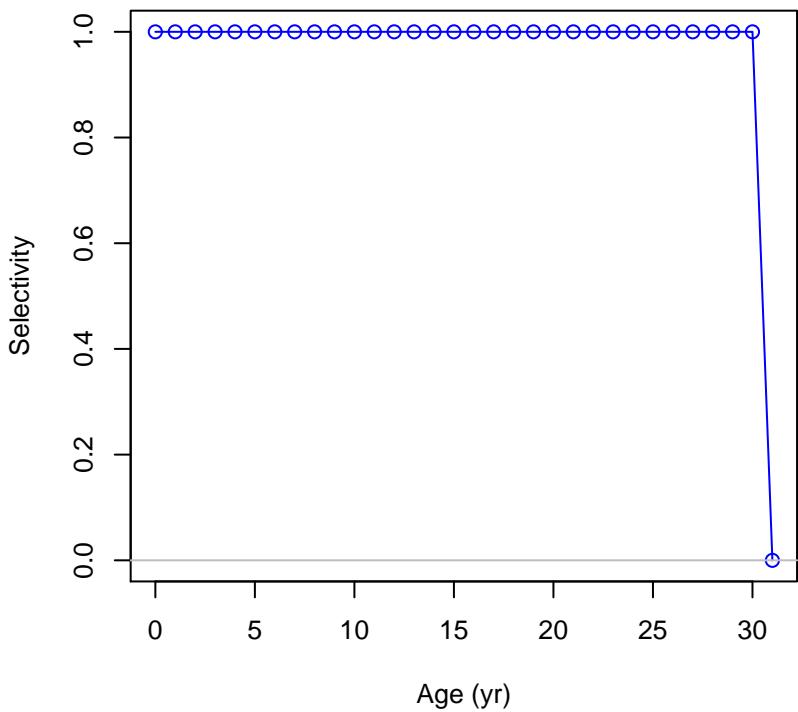
**Male ending year selectivity for F15\_MEX\_SOU**



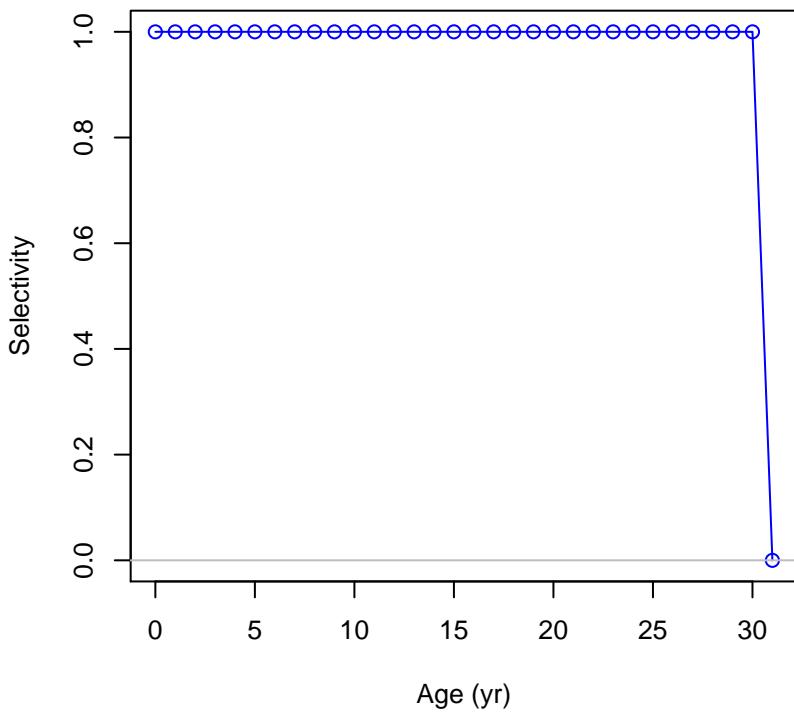
**Female ending year selectivity for F16\_WCPFC**



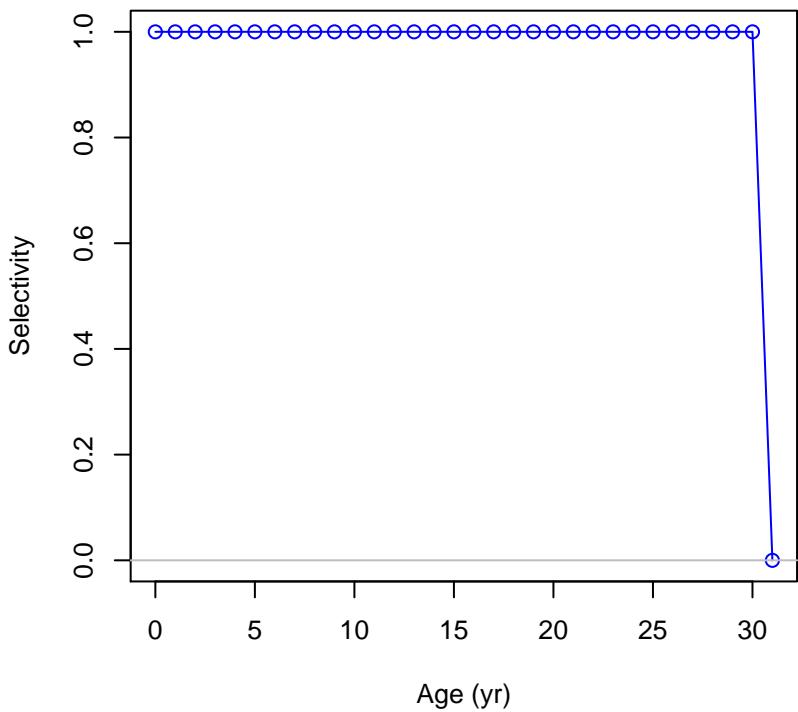
**Female ending year selectivity for F17\_IATTC**



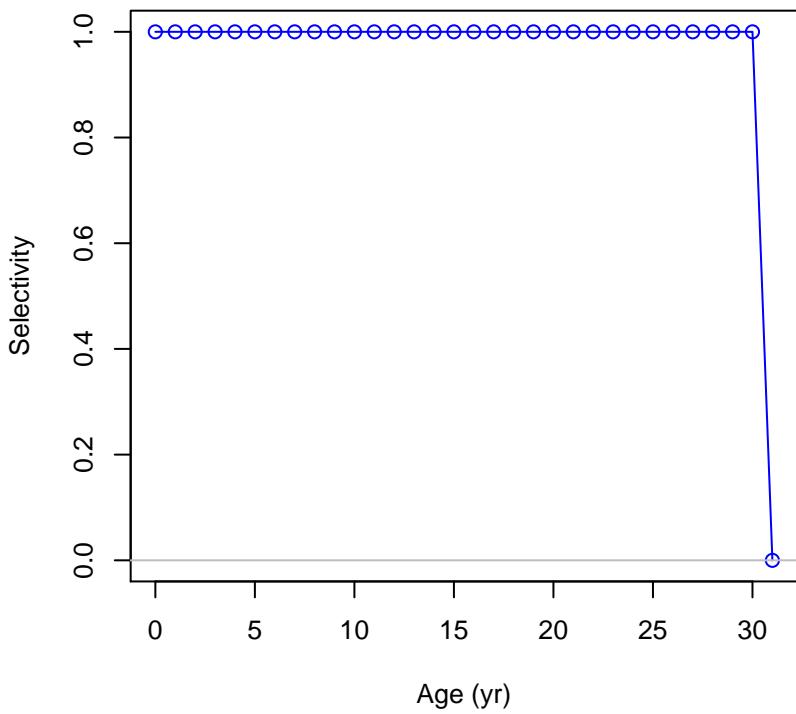
**Male ending year selectivity for F16\_WCPFC**



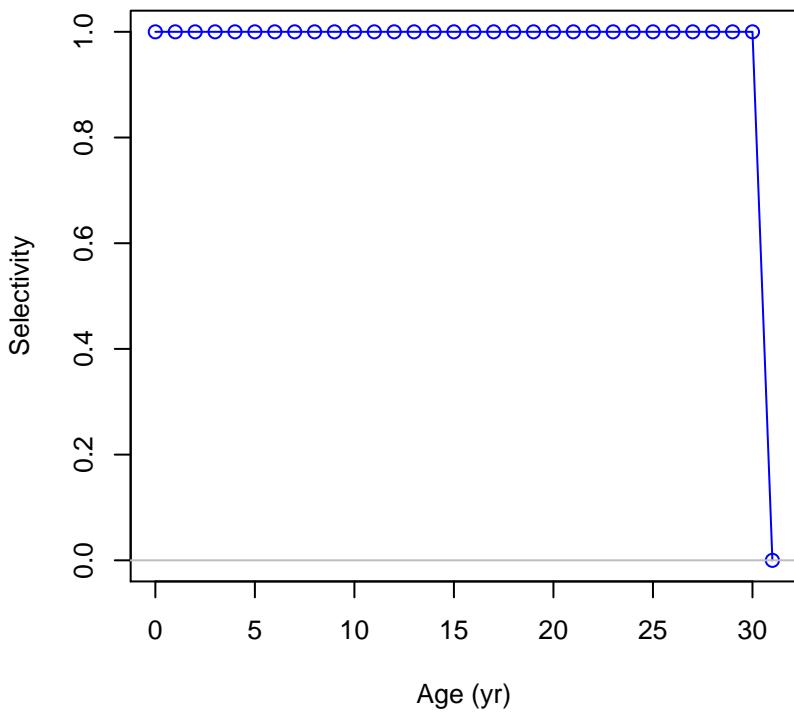
**Male ending year selectivity for F17\_IATTC**



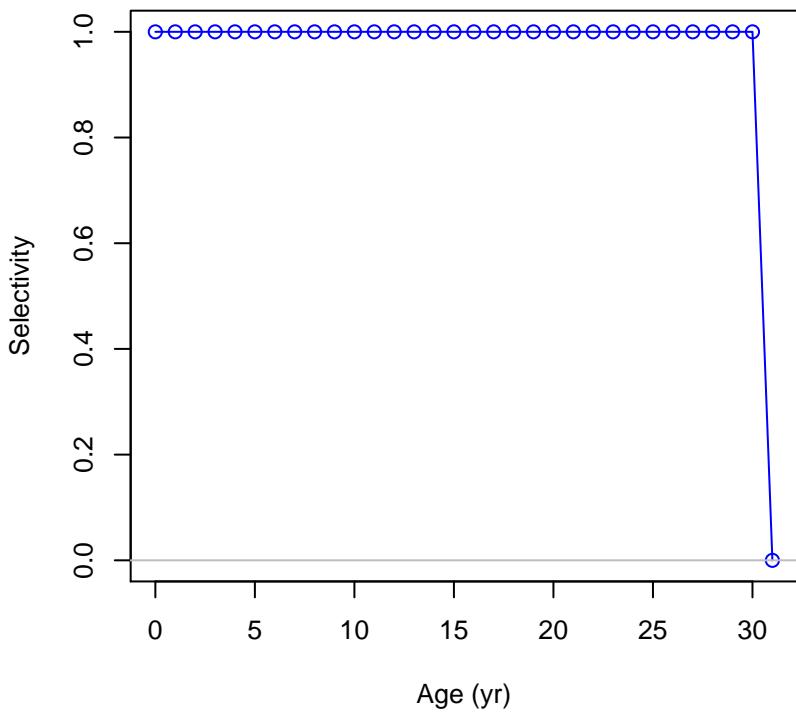
**Female ending year selectivity for F18\_JPN\_SSII**



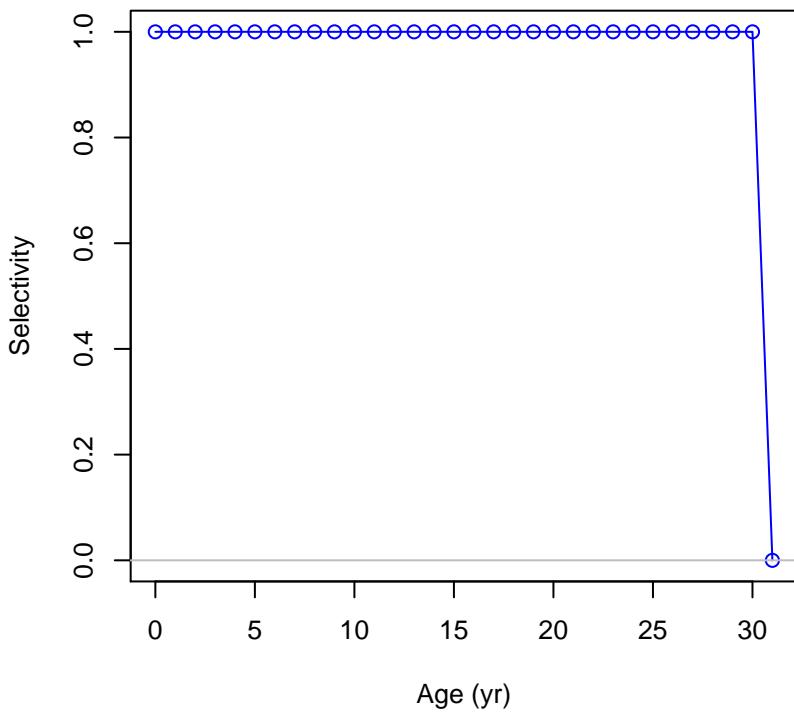
**Female ending year selectivity for S1\_US\_SS**



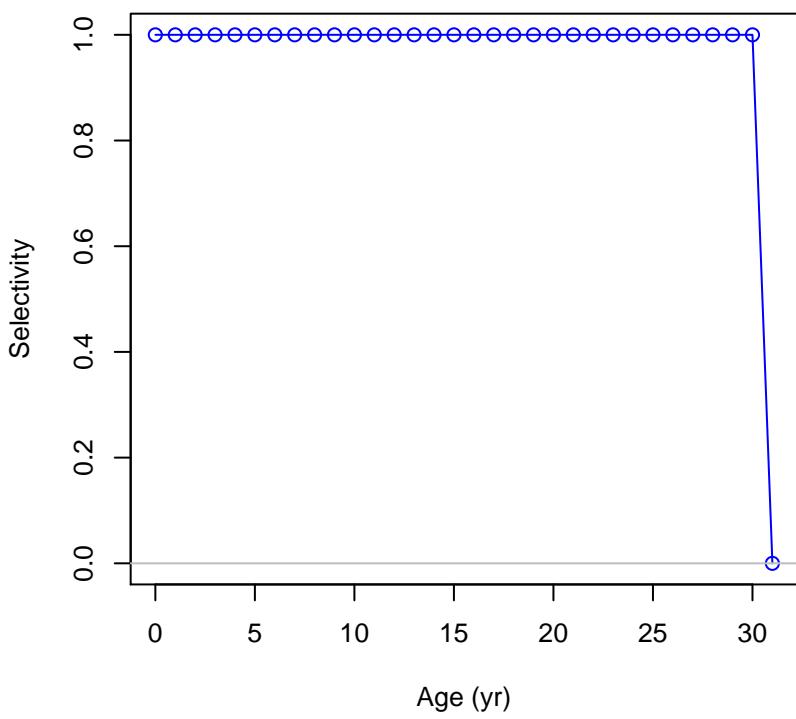
**Male ending year selectivity for F18\_JPN\_SSII**



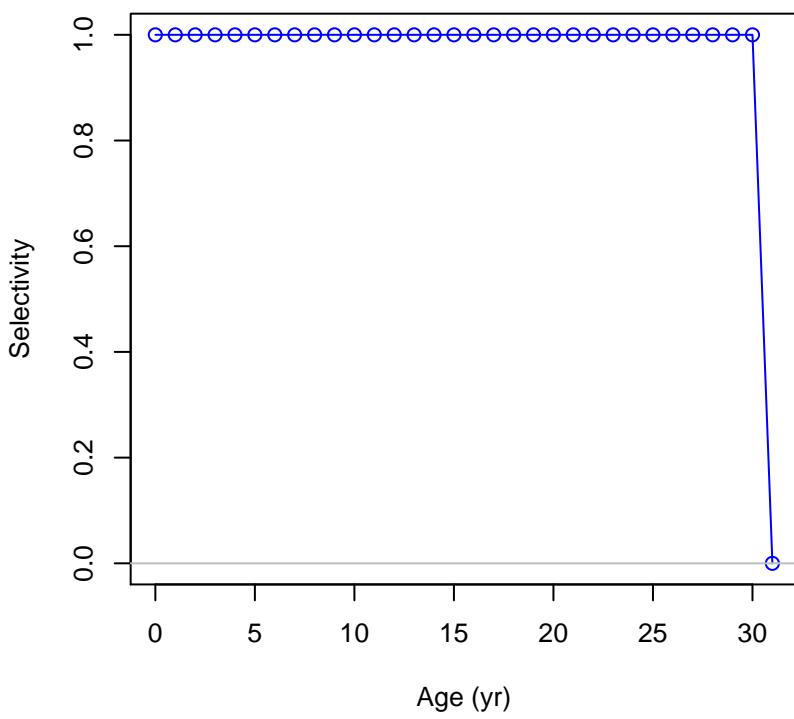
**Male ending year selectivity for S1\_US\_SS**



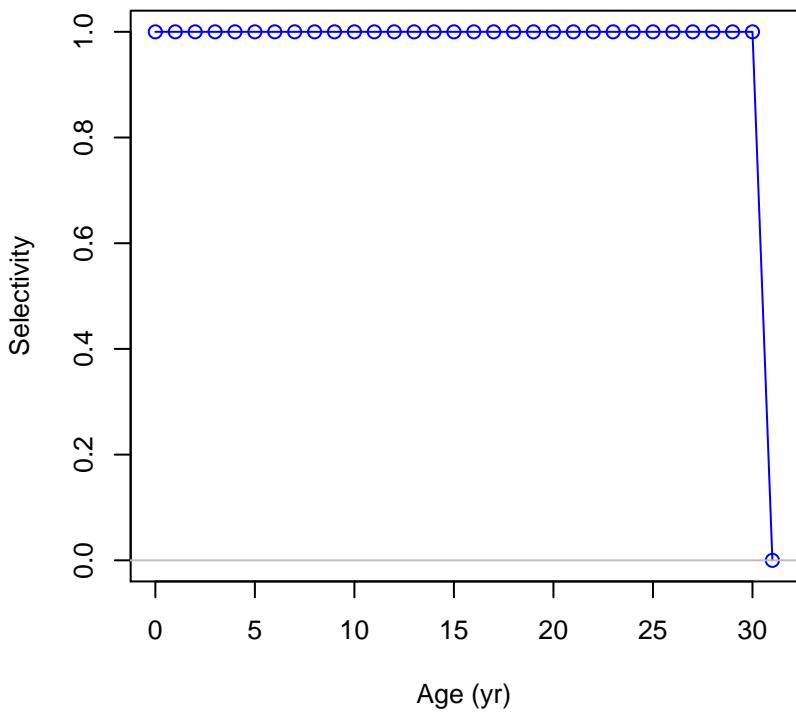
**Female ending year selectivity for S2\_US\_DS**



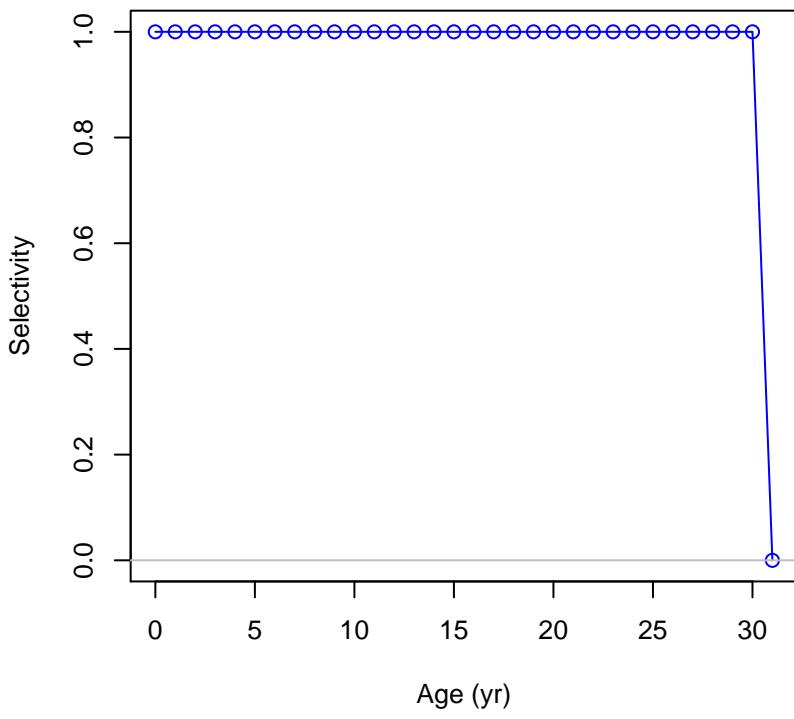
**Female ending year selectivity for S3\_TW\_LRG**



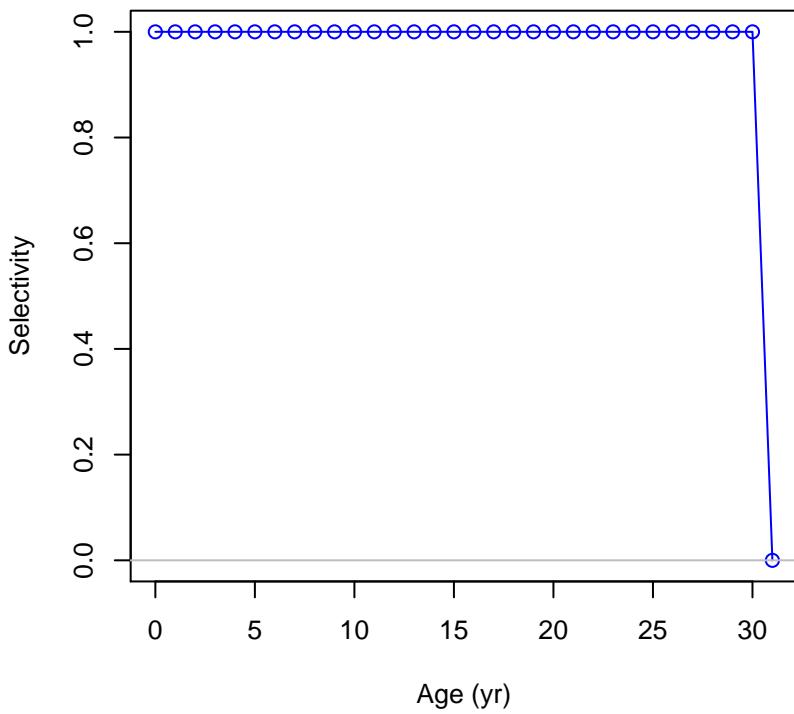
**Male ending year selectivity for S2\_US\_DS**



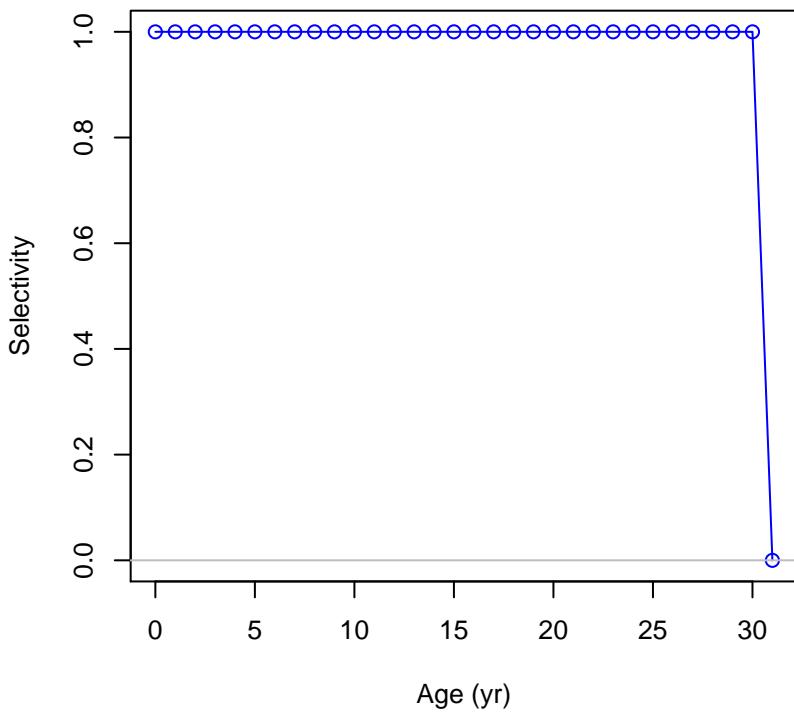
**Male ending year selectivity for S3\_TW\_LRG**



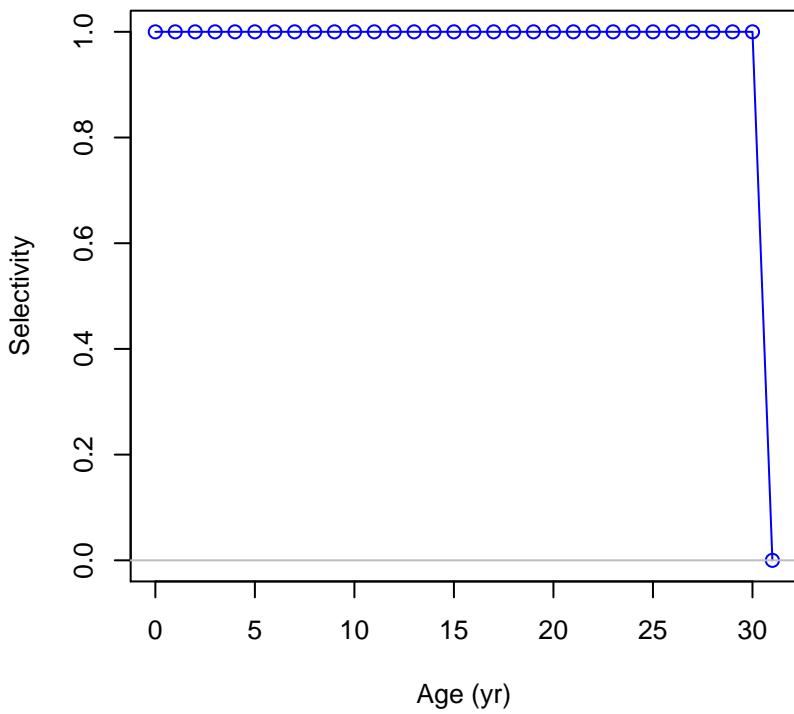
**Female ending year selectivity for S4\_JPN\_SS**



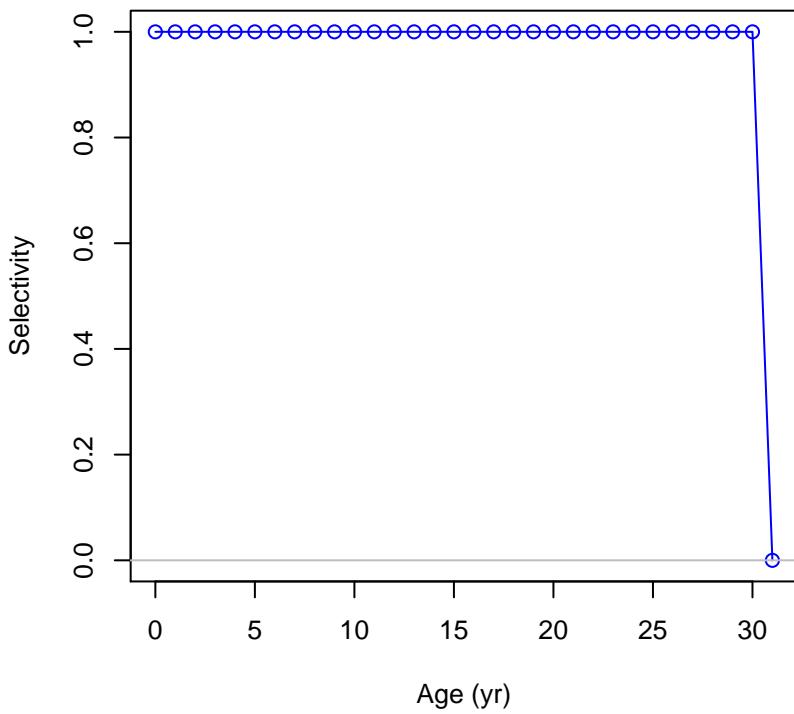
**Female ending year selectivity for S5\_JPN\_RTV**



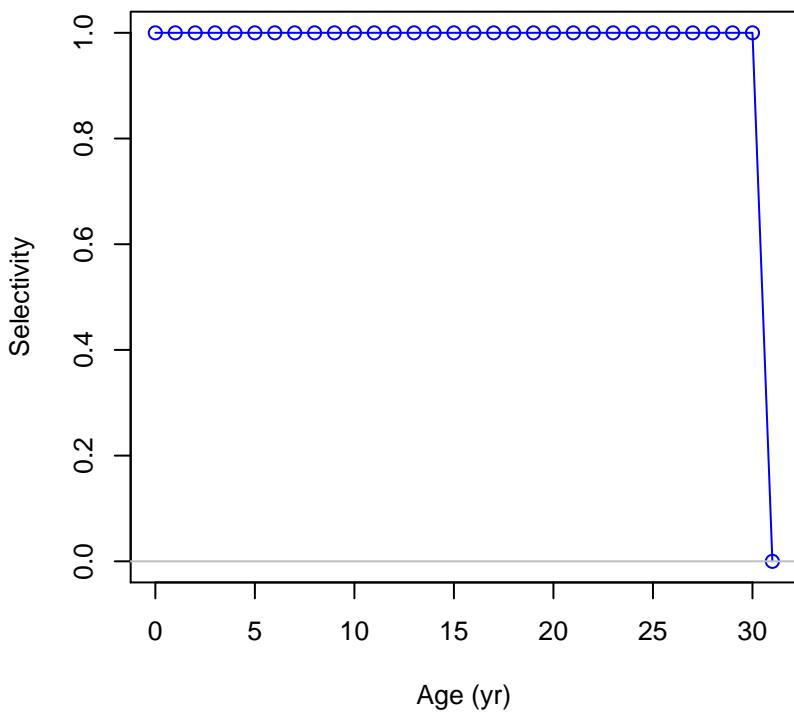
**Male ending year selectivity for S4\_JPN\_SS**



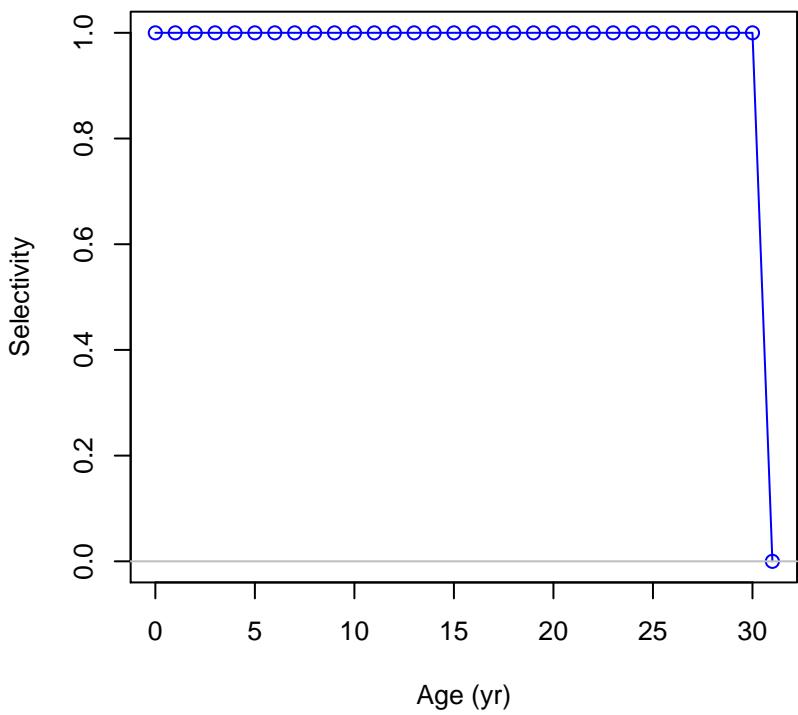
**Male ending year selectivity for S5\_JPN\_RTV**



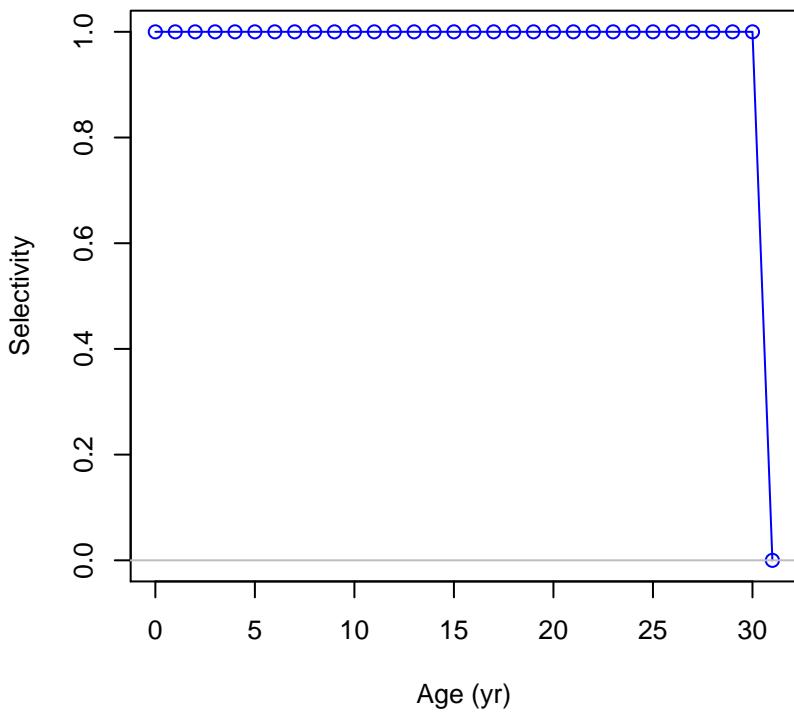
**Female ending year selectivity for S6\_JPN\_OBS**



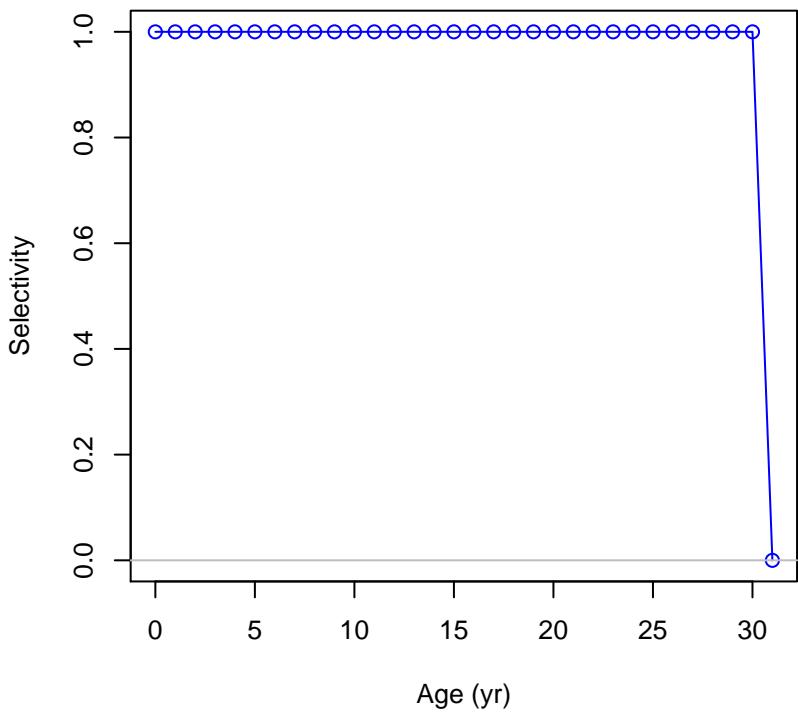
**Female ending year selectivity for S7\_JPN\_GEO**



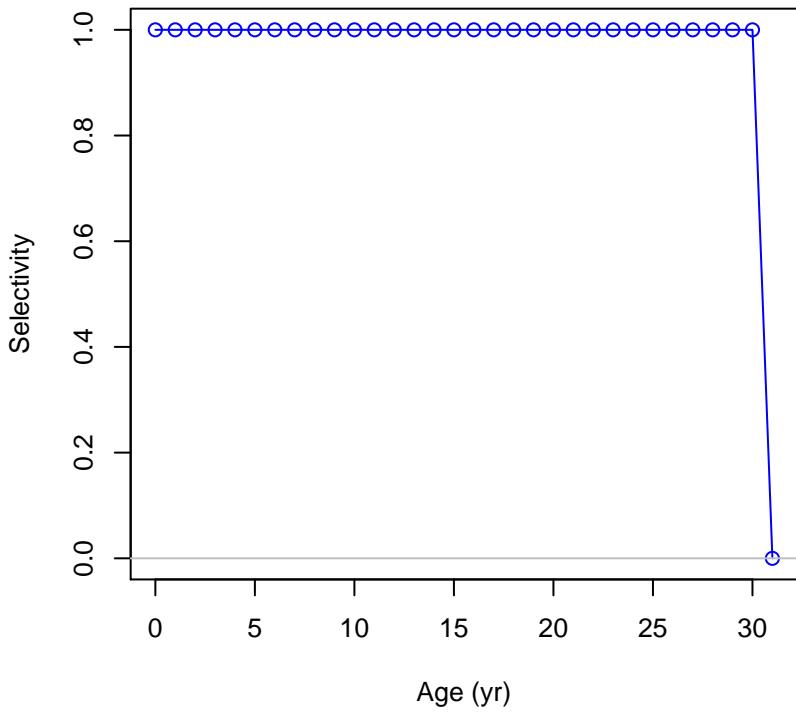
**Male ending year selectivity for S6\_JPN\_OBS**



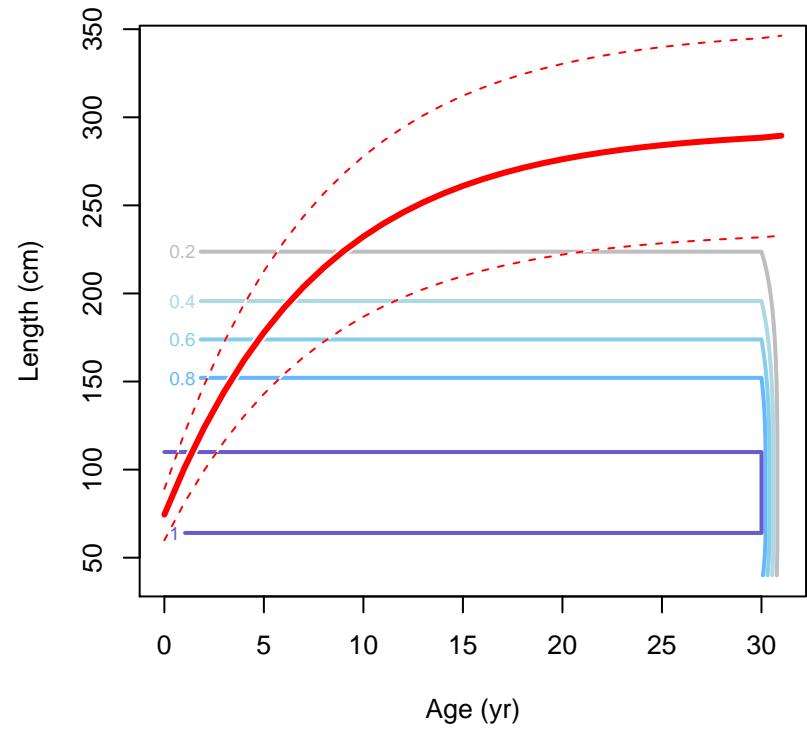
**Male ending year selectivity for S7\_JPN\_GEO**



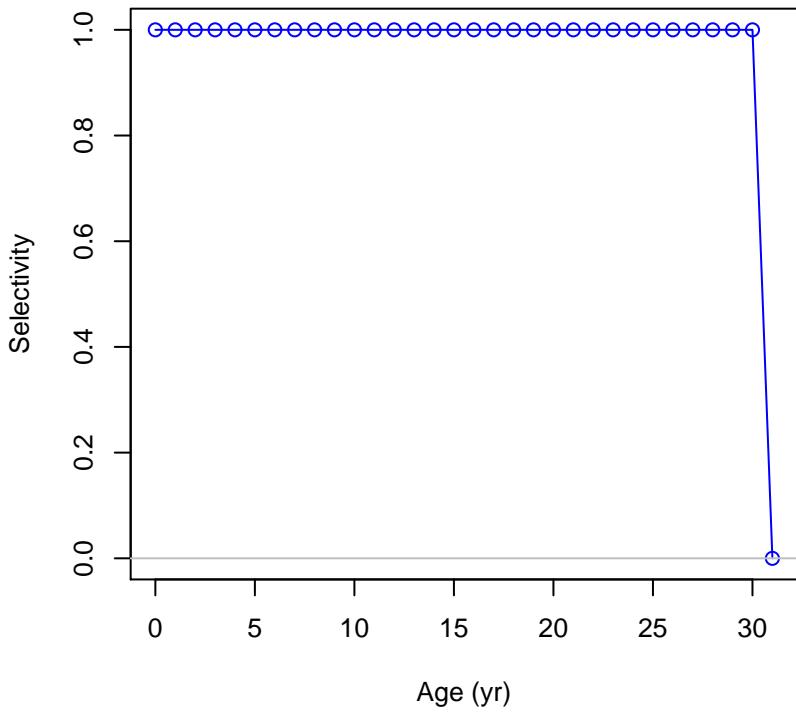
**Female ending year selectivity for S8\_MEX**



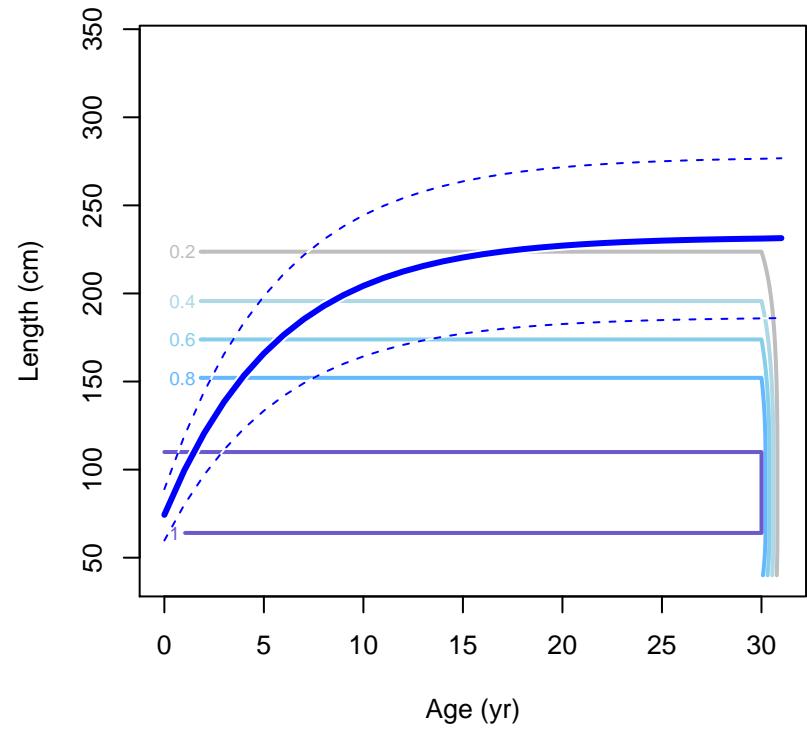
**Female ending year selectivity and growth for F1\_US\_CA**



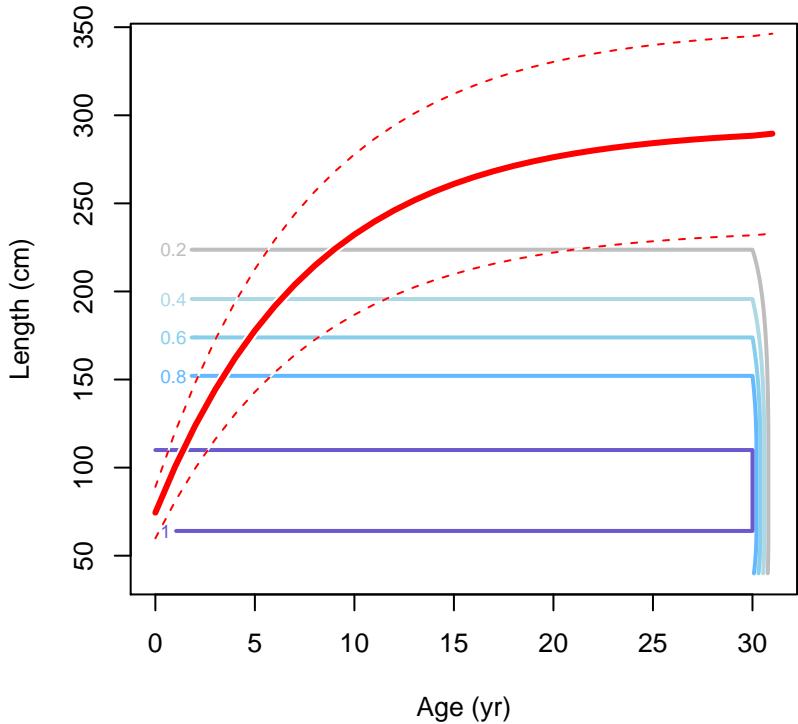
**Male ending year selectivity for S8\_MEX**



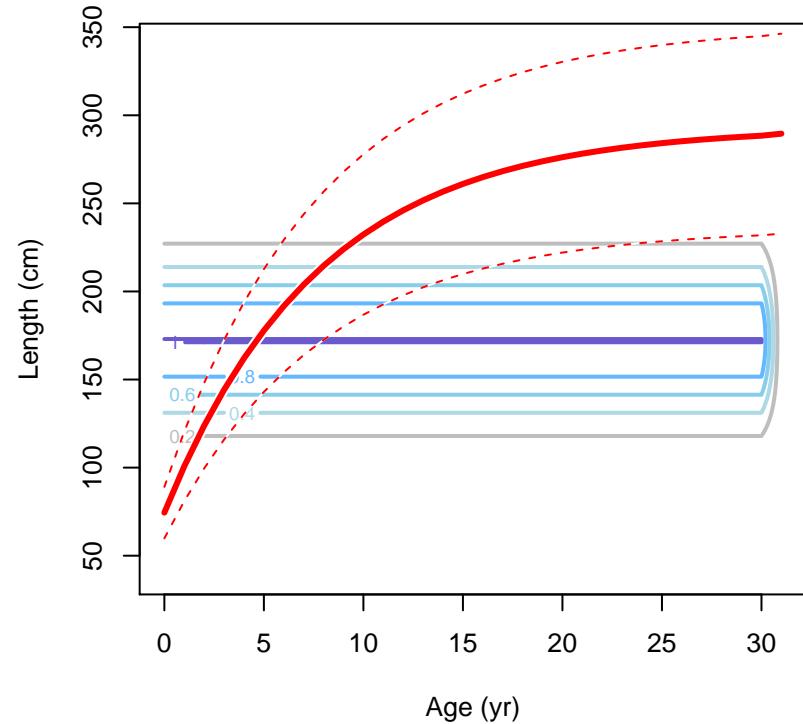
**Male ending year selectivity and growth for F1\_US\_CA**



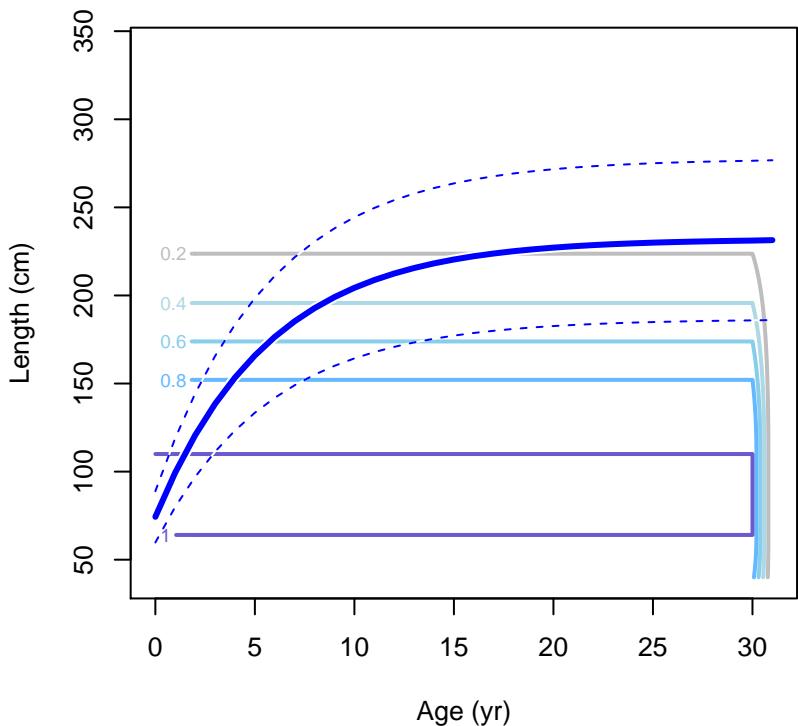
**Female ending year selectivity and growth for F2\_US\_HI\_SS**



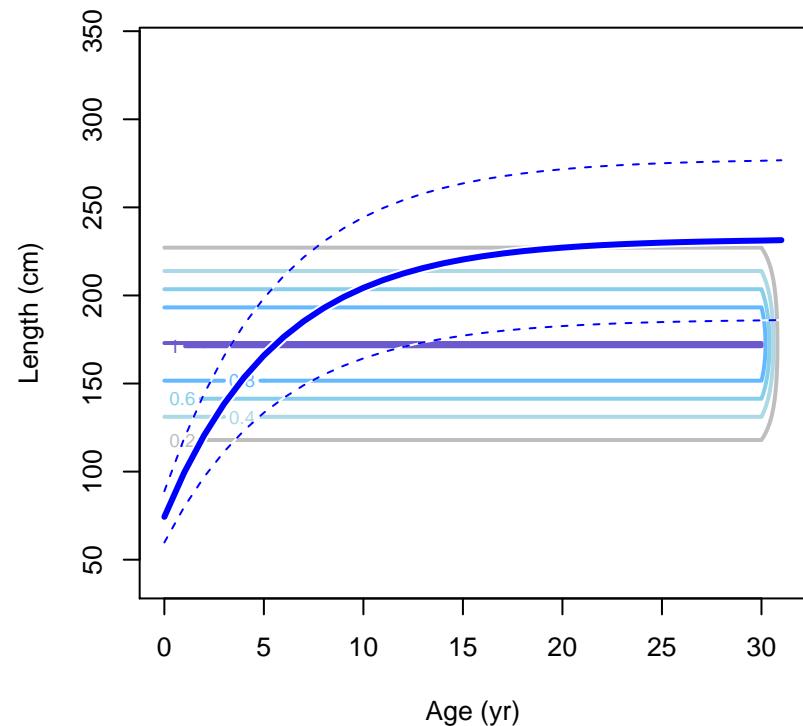
**Female ending year selectivity and growth for F3\_US\_HI\_DS**



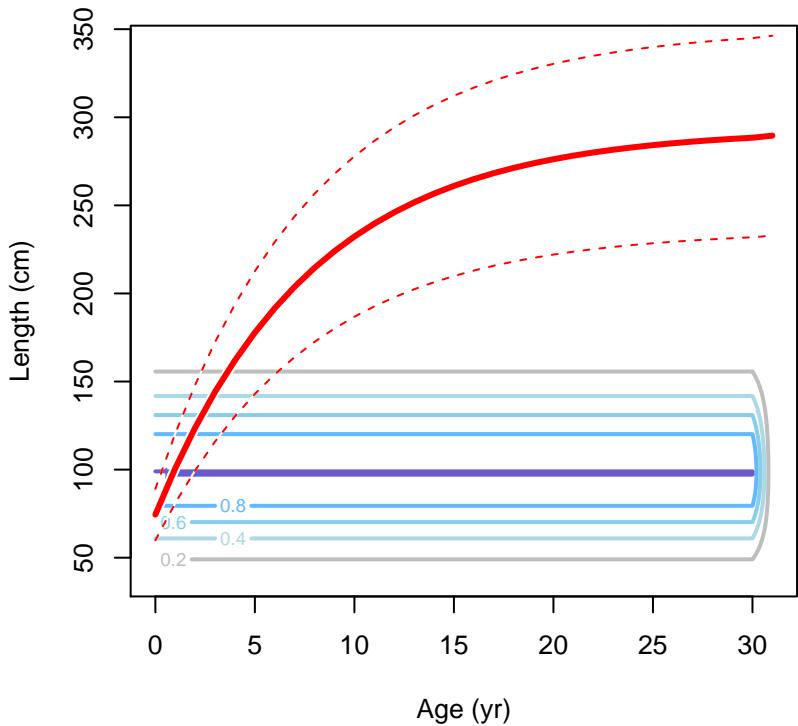
**Male ending year selectivity and growth for F2\_US\_HI\_SS**



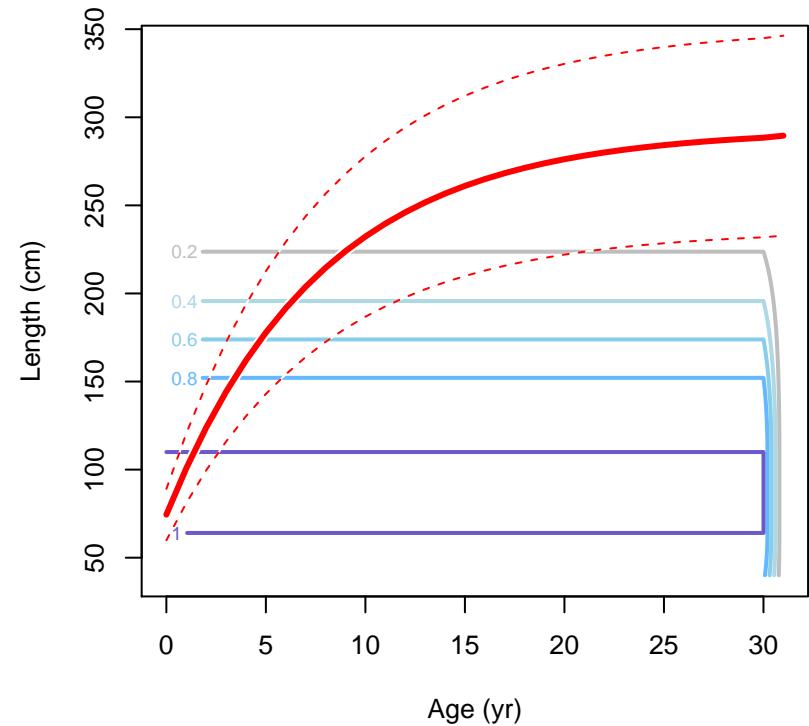
**Male ending year selectivity and growth for F3\_US\_HI\_DS**



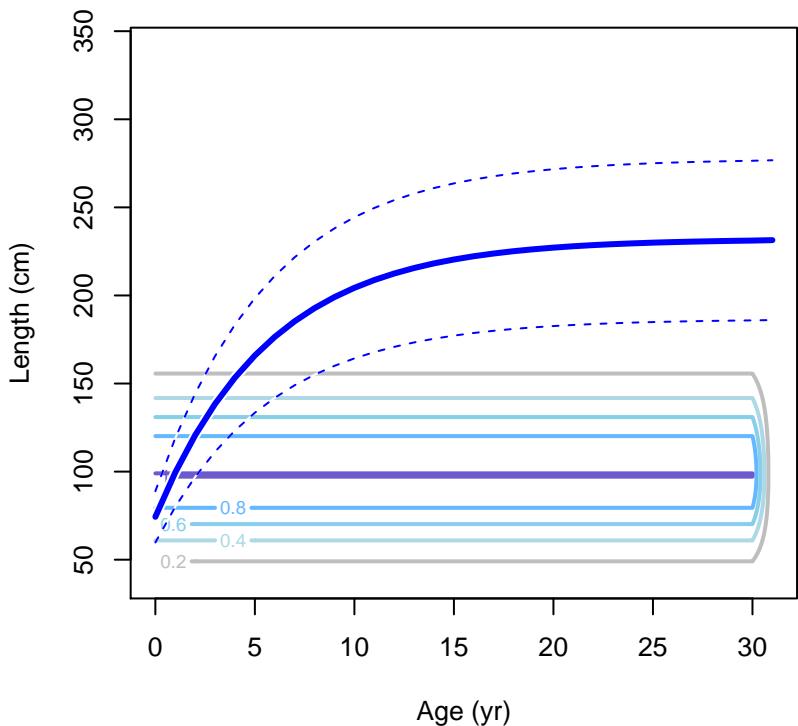
**Female ending year selectivity and growth for F4\_US\_DGN**



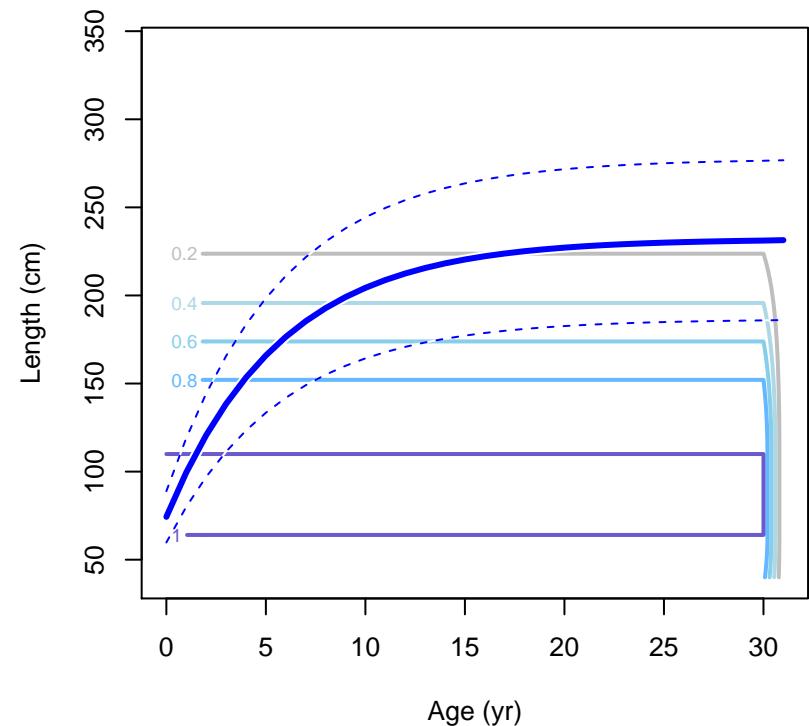
**Female ending year selectivity and growth for F5\_US\_REC**



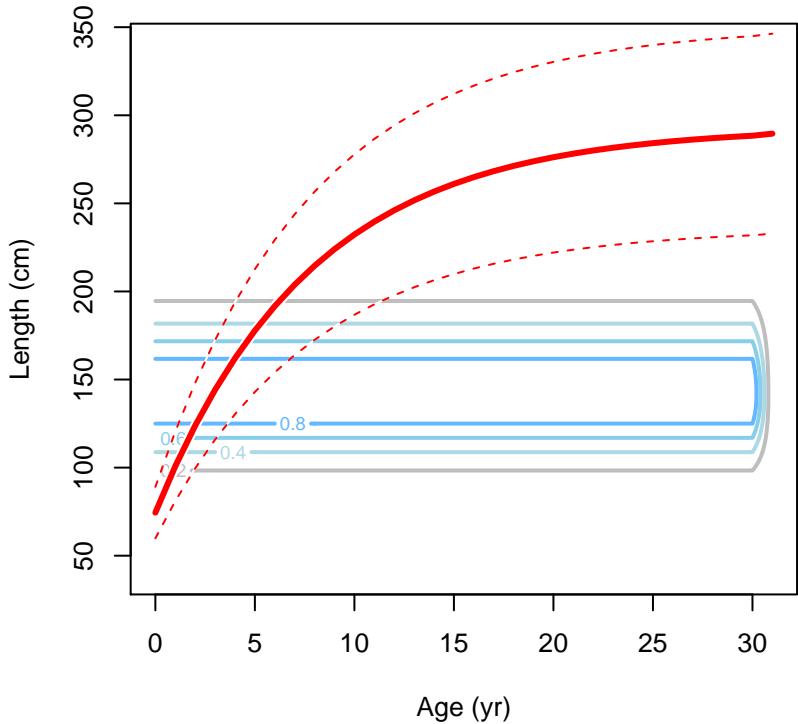
**Male ending year selectivity and growth for F4\_US\_DGN**



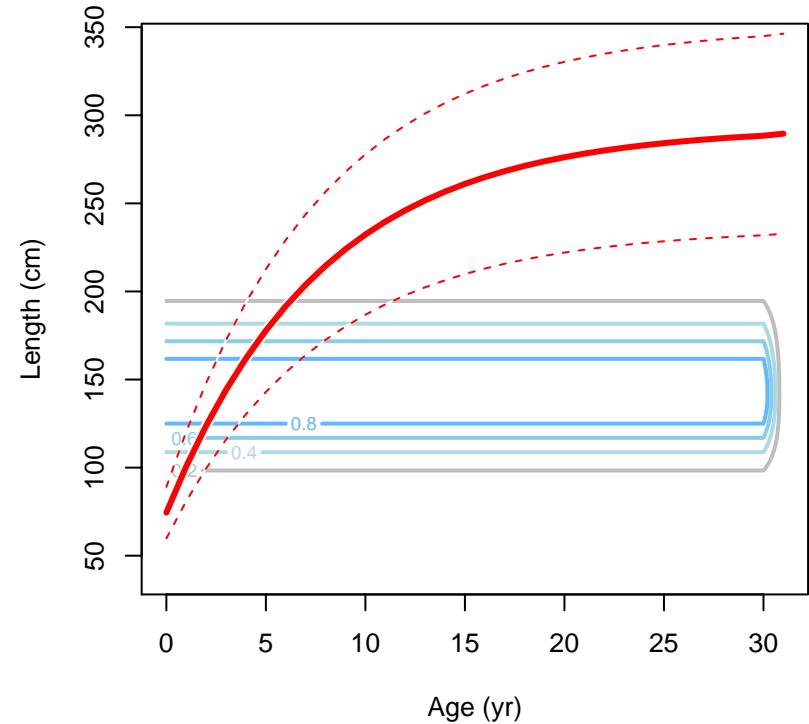
**Male ending year selectivity and growth for F5\_US\_REC**



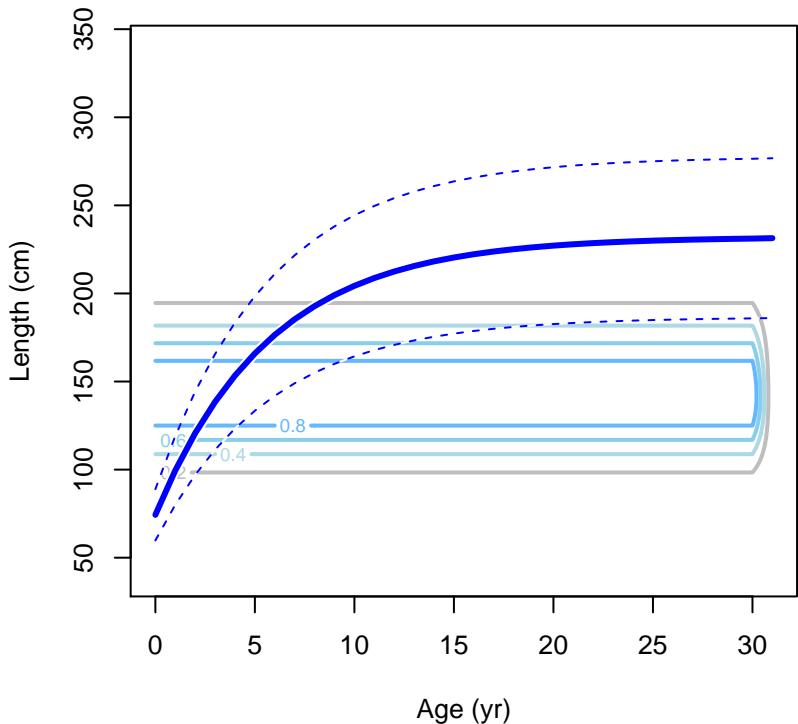
**Female ending year selectivity and growth for F6\_TW\_LRG\_N**



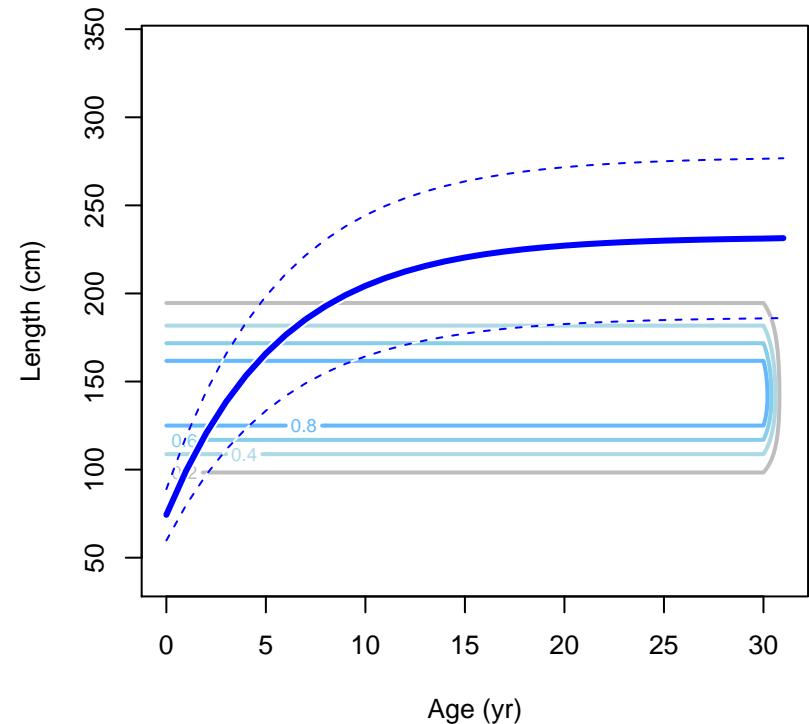
**Female ending year selectivity and growth for F7\_TW\_LRG\_S**



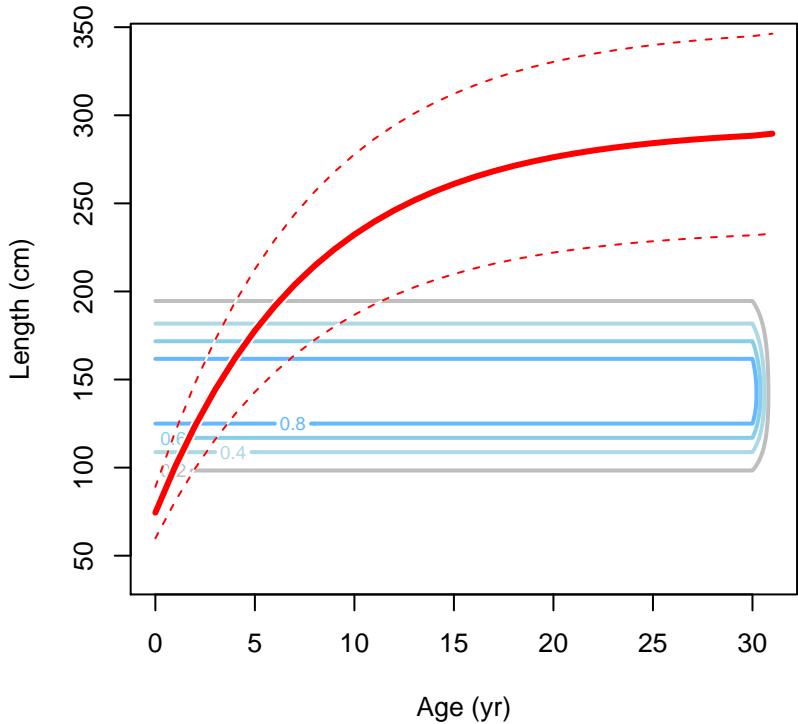
**Male ending year selectivity and growth for F6\_TW\_LRG\_N**



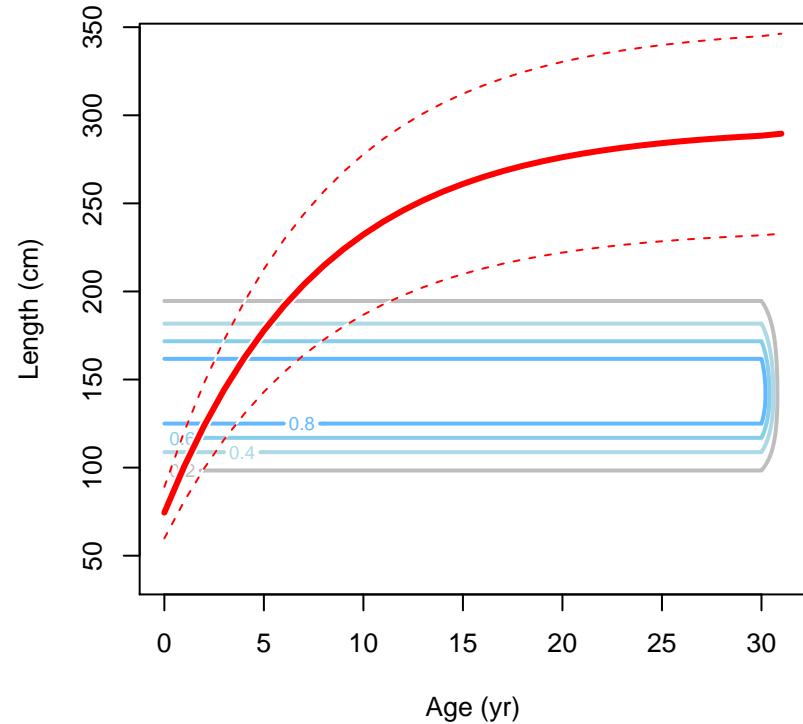
**Male ending year selectivity and growth for F7\_TW\_LRG\_S**



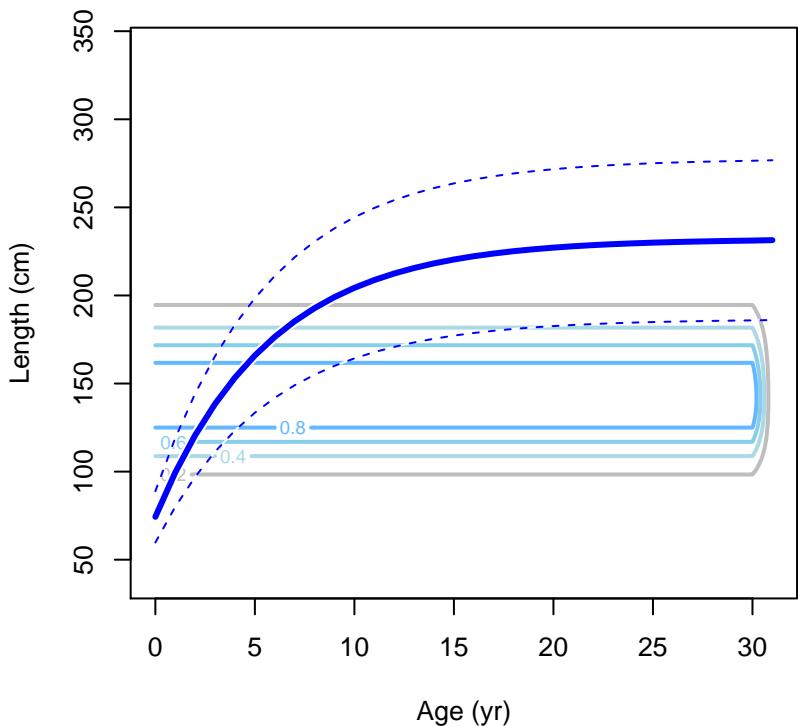
**Female ending year selectivity and growth for F8\_TW\_SML**



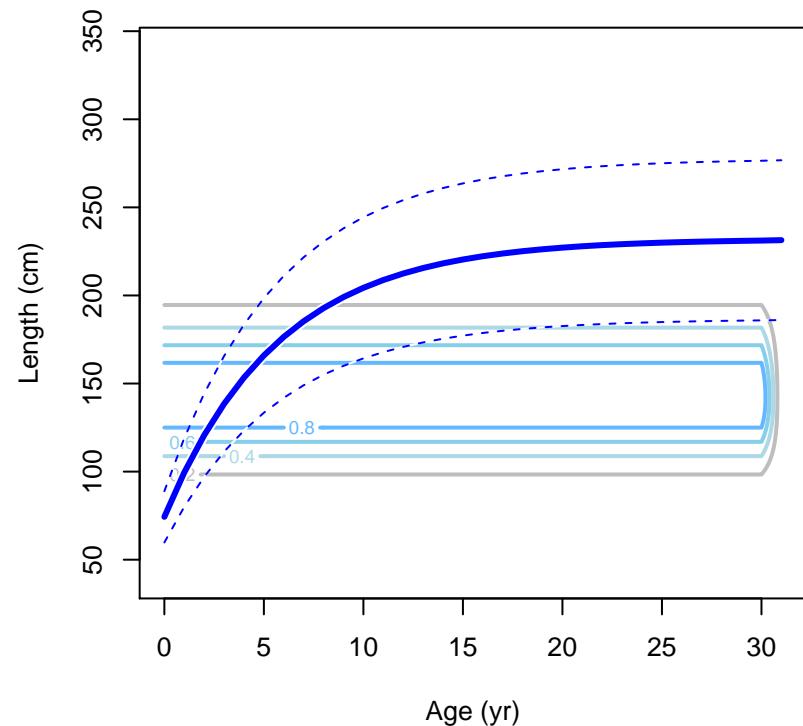
**Female ending year selectivity and growth for F9\_JPN\_SS**



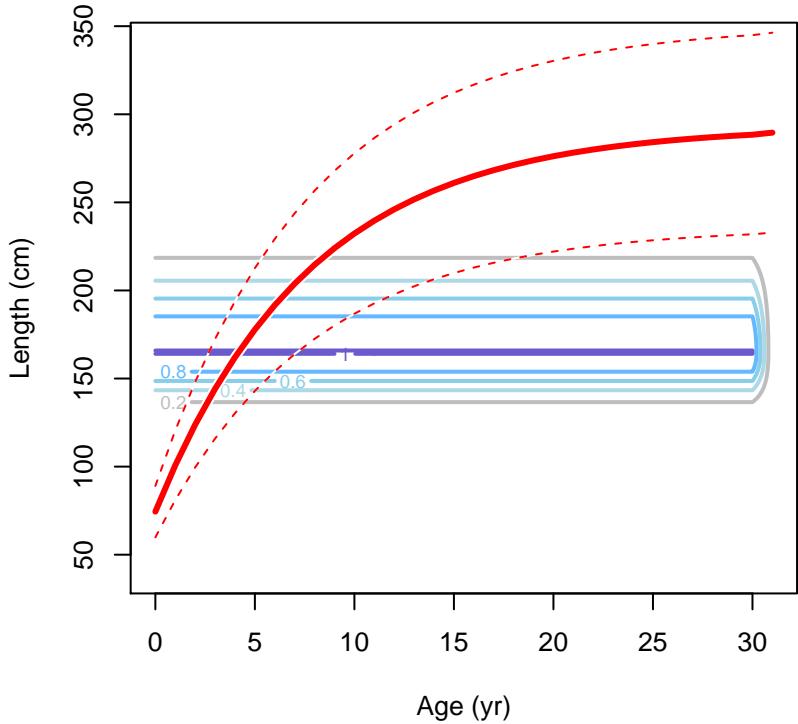
**Male ending year selectivity and growth for F8\_TW\_SML**



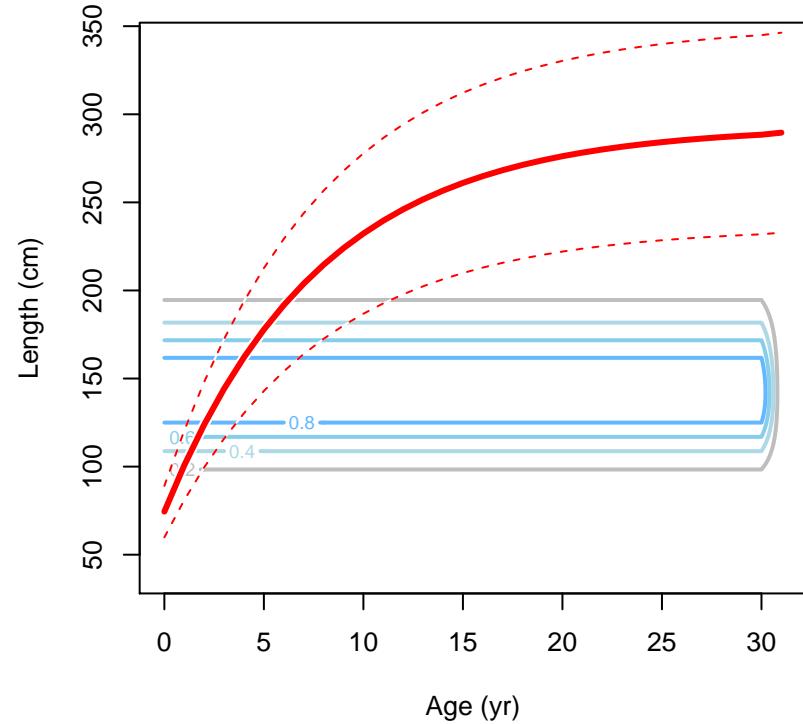
**Male ending year selectivity and growth for F9\_JPN\_SS**



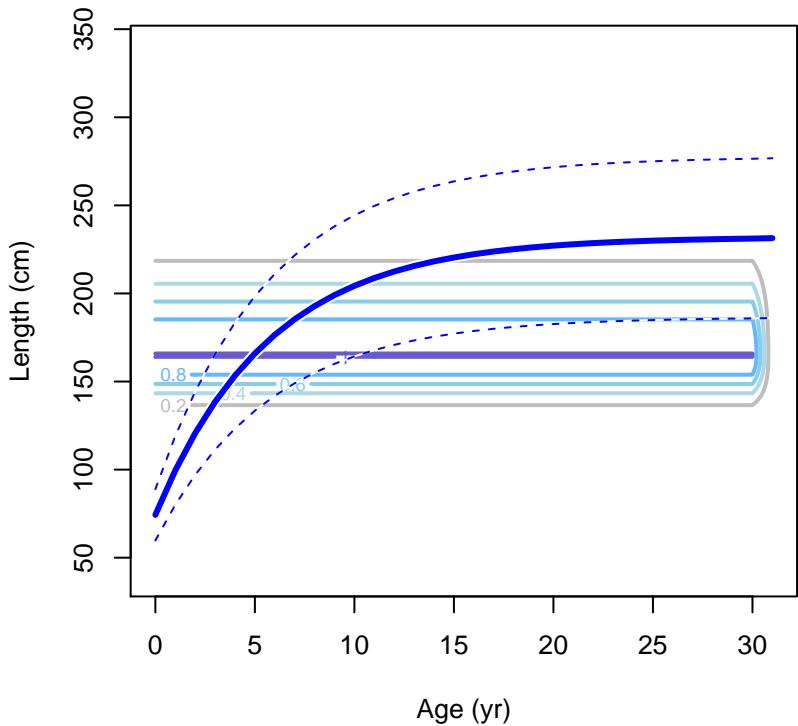
**Female ending year selectivity and growth for F10\_JPN\_DS**



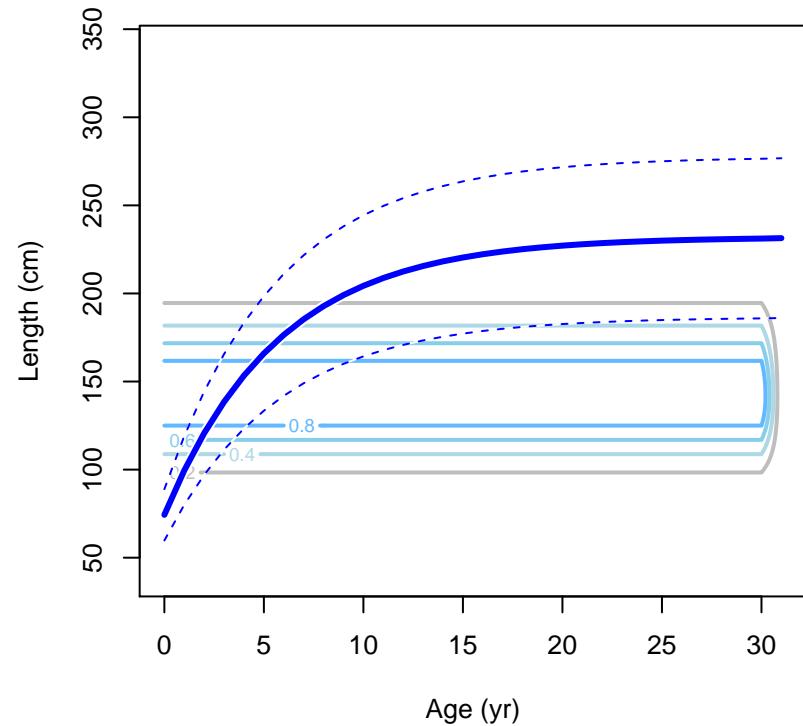
**Female ending year selectivity and growth for F11\_JPN\_CST**



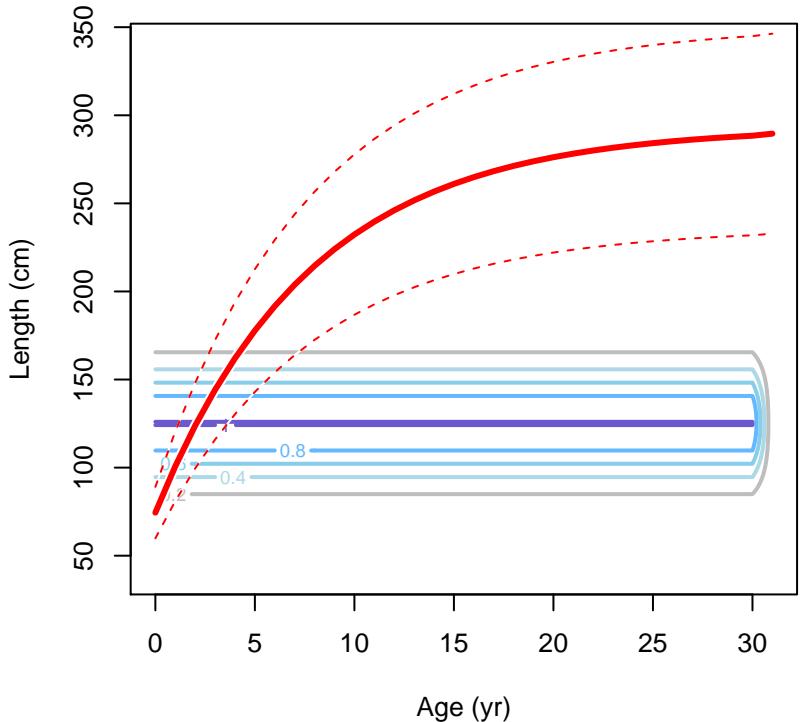
**Male ending year selectivity and growth for F10\_JPN\_DS**



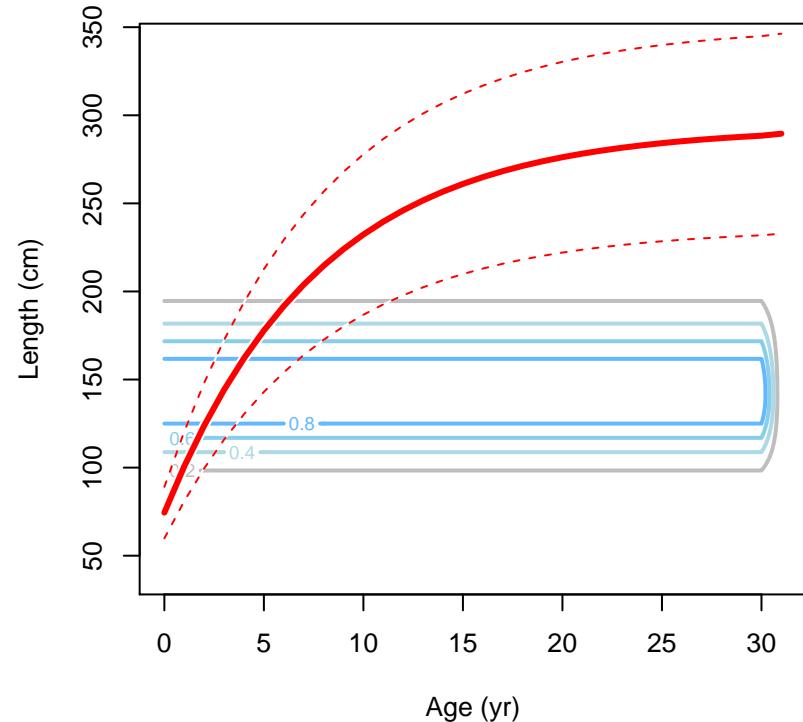
**Male ending year selectivity and growth for F11\_JPN\_CST**



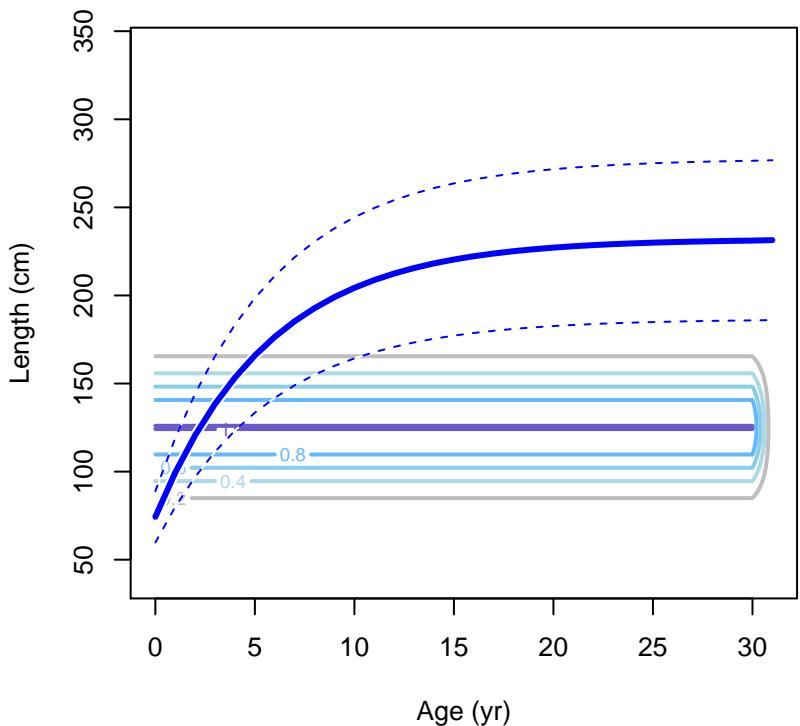
**Female ending year selectivity and growth for F12\_JPN\_DFN**



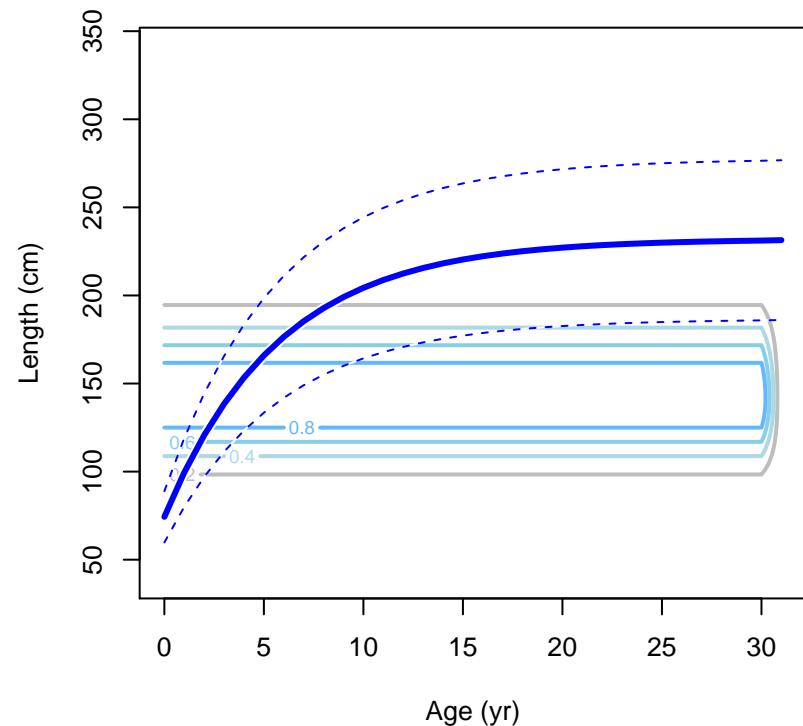
**Female ending year selectivity and growth for F13\_JPN\_OTH**



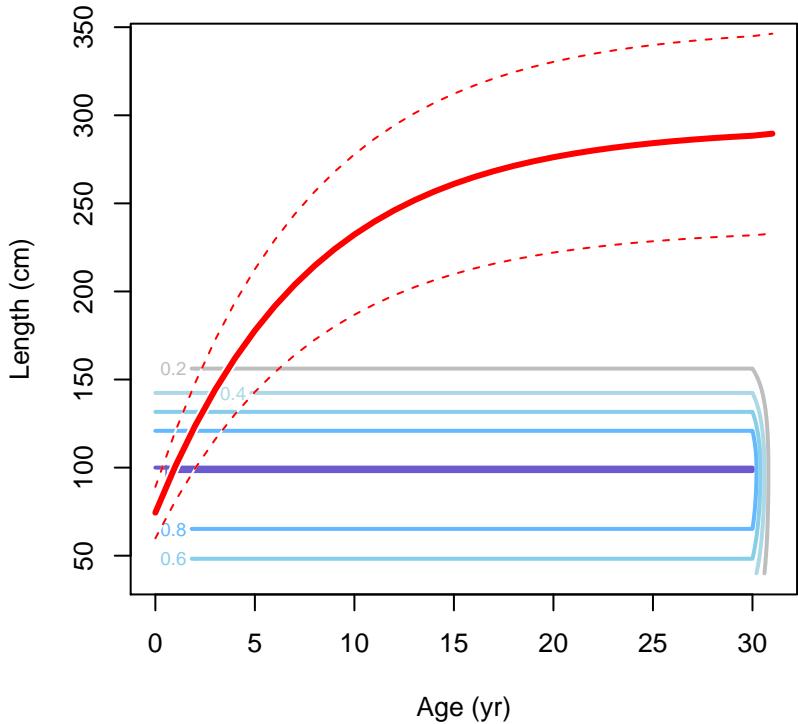
**Male ending year selectivity and growth for F12\_JPN\_DFN**



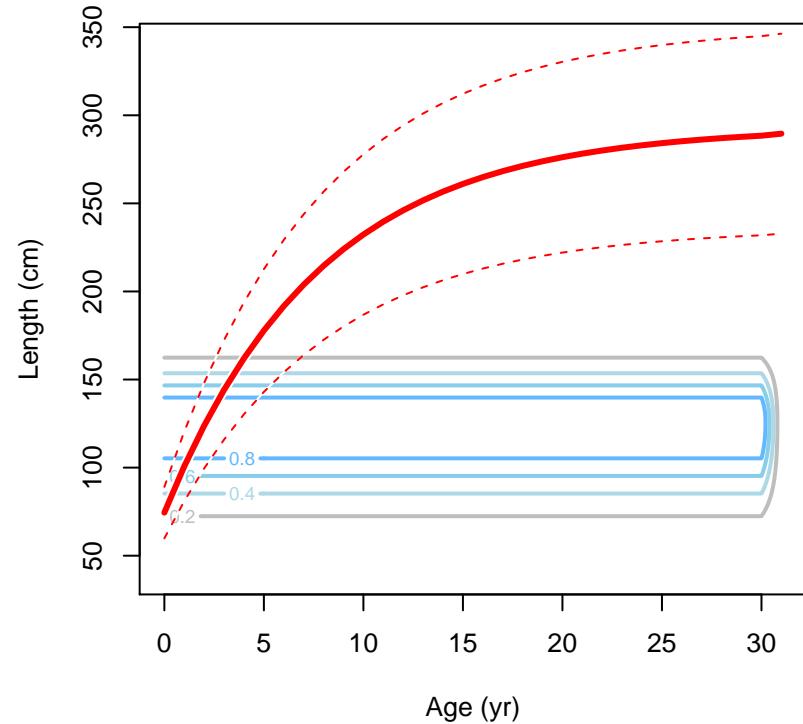
**Male ending year selectivity and growth for F13\_JPN\_OTH**



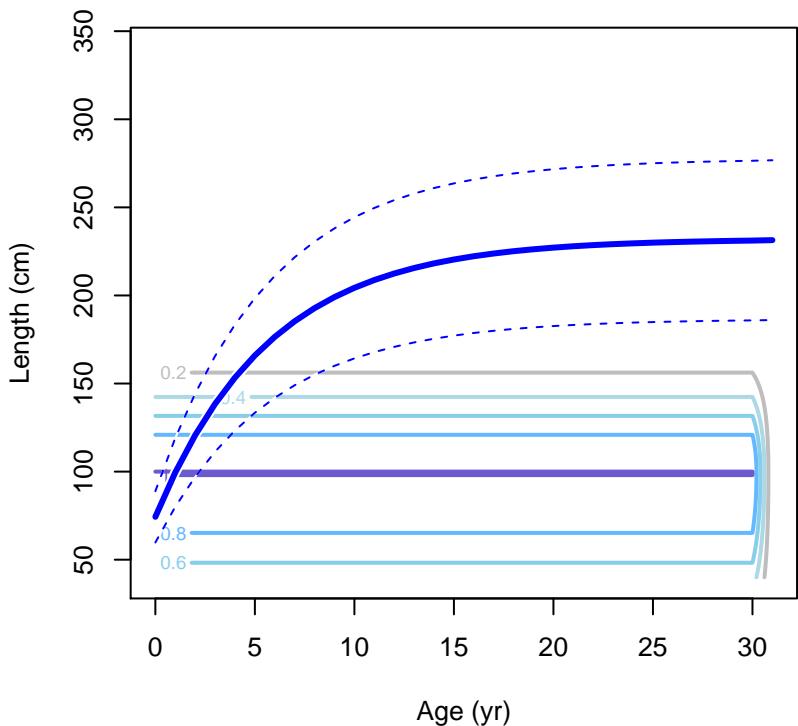
**Female ending year selectivity and growth for F14\_MEX\_NOR**



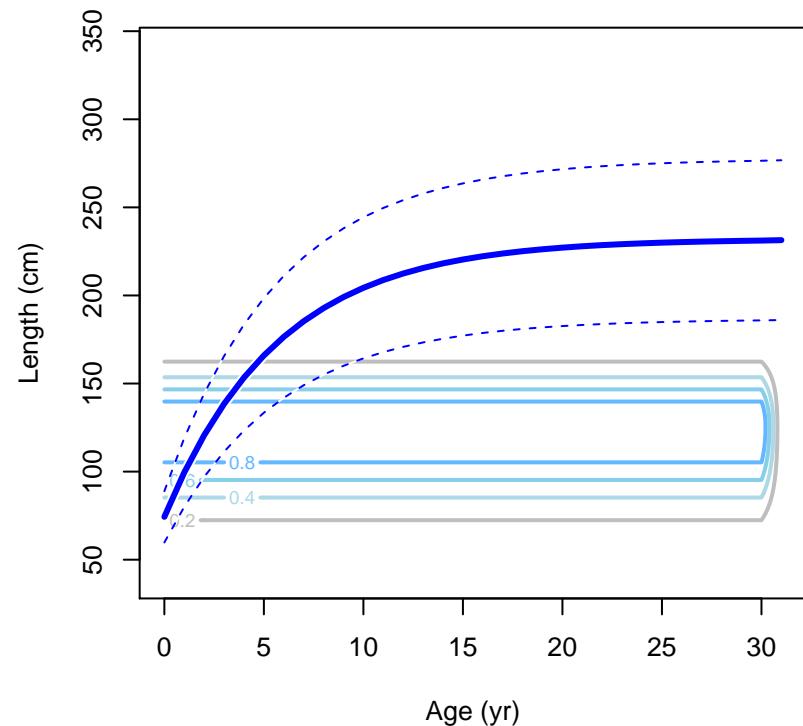
**Female ending year selectivity and growth for F15\_MEX\_SOUL**



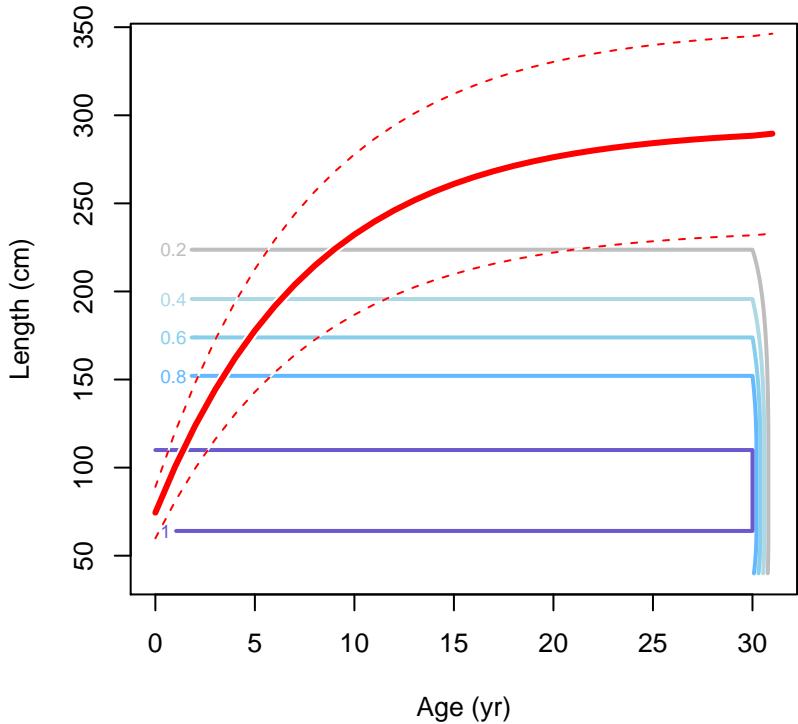
**Male ending year selectivity and growth for F14\_MEX\_NOR**



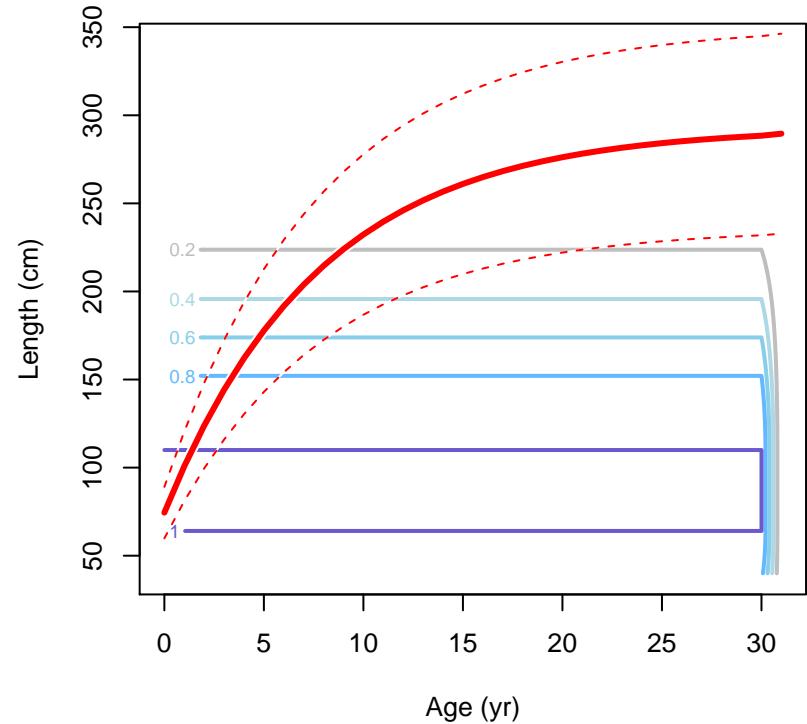
**Male ending year selectivity and growth for F15\_MEX\_SOUL**



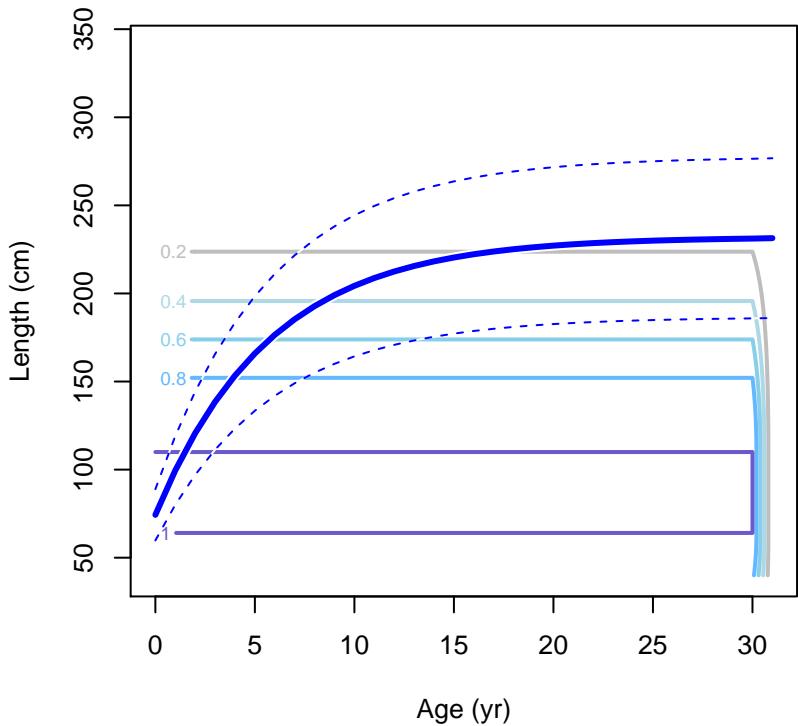
**Female ending year selectivity and growth for F16\_WCPFC**



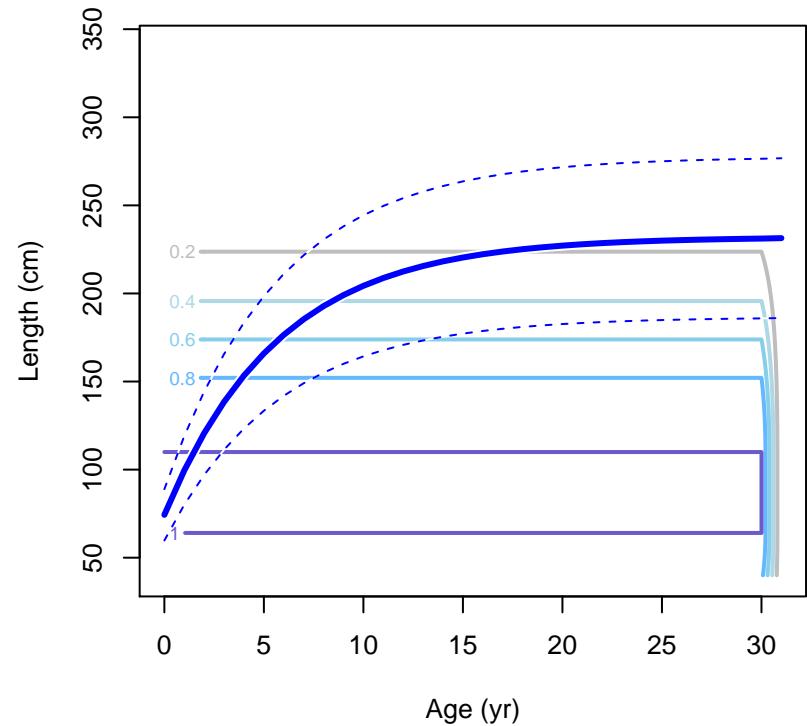
**Female ending year selectivity and growth for F17\_IATTC**



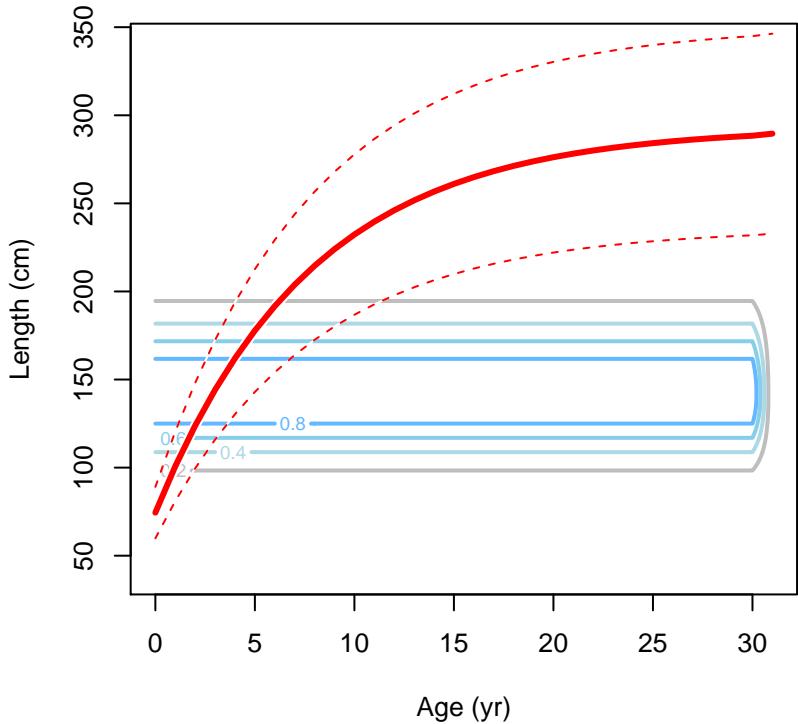
**Male ending year selectivity and growth for F16\_WCPFC**



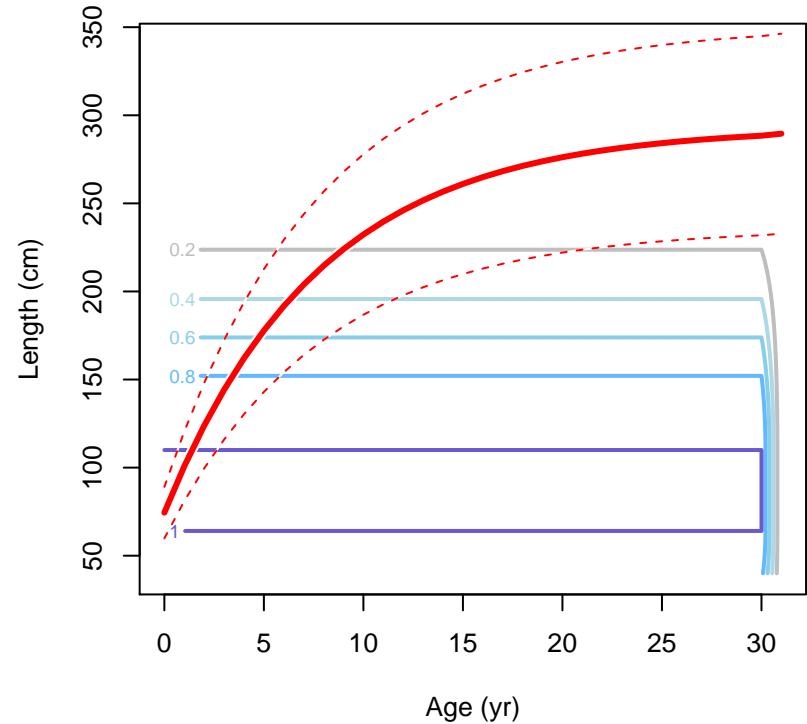
**Male ending year selectivity and growth for F17\_IATTC**



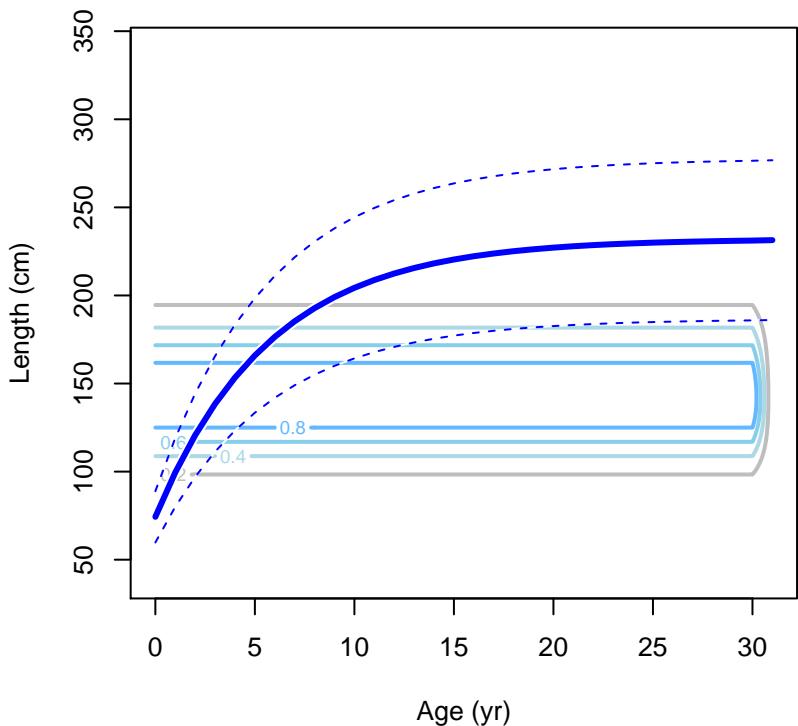
**Female ending year selectivity and growth for F18\_JPN\_SSII**



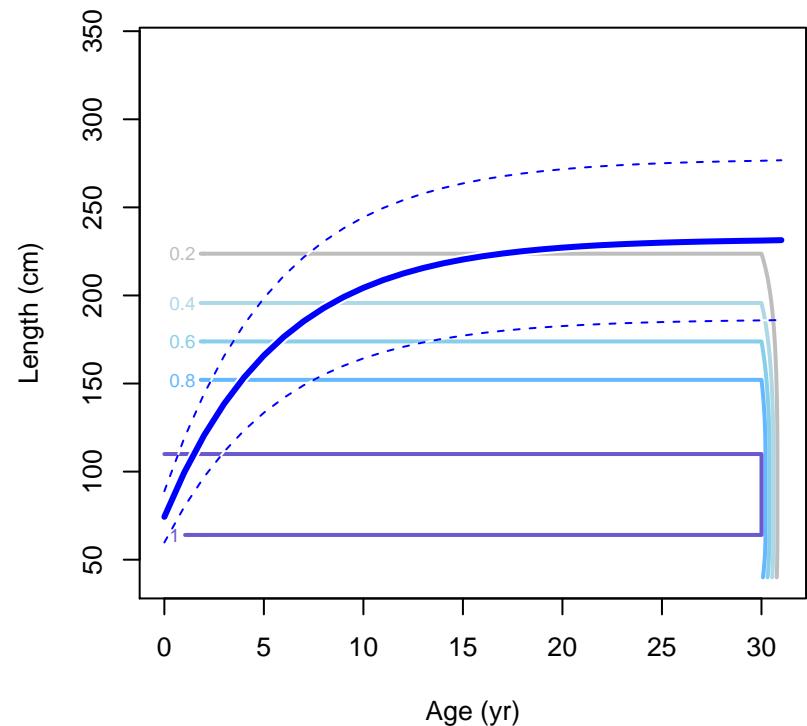
**Female ending year selectivity and growth for S1\_US\_SS**



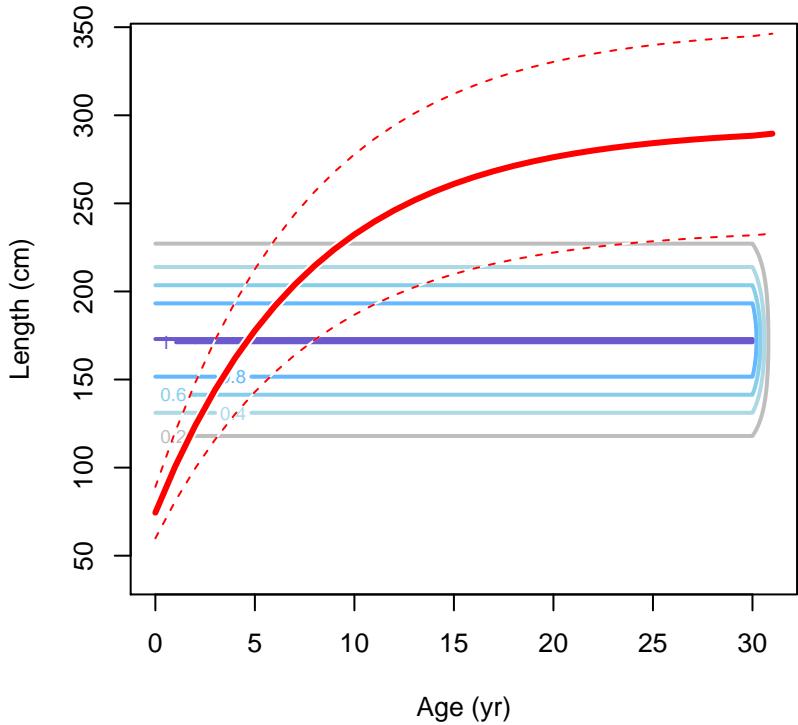
**Male ending year selectivity and growth for F18\_JPN\_SSII**



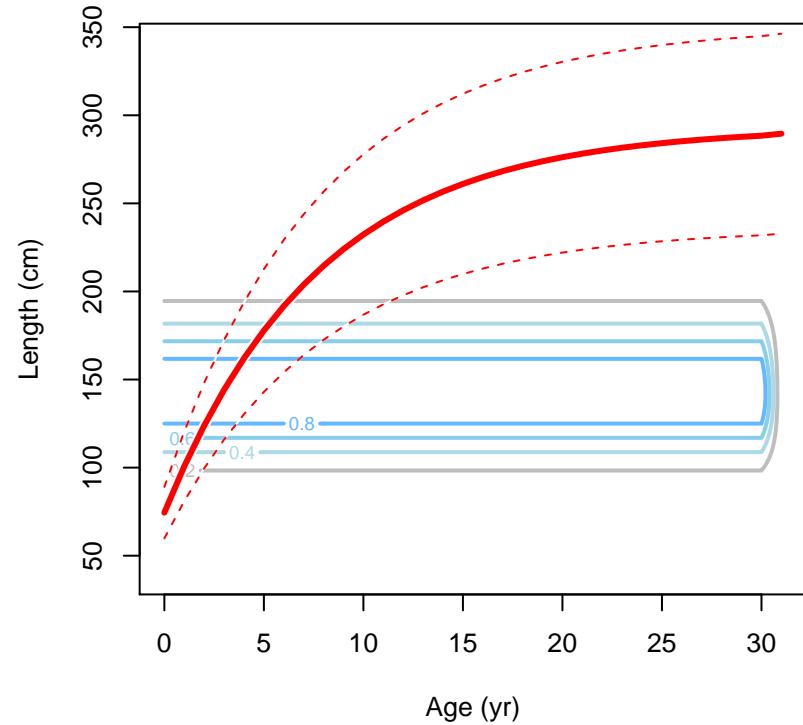
**Male ending year selectivity and growth for S1\_US\_SS**



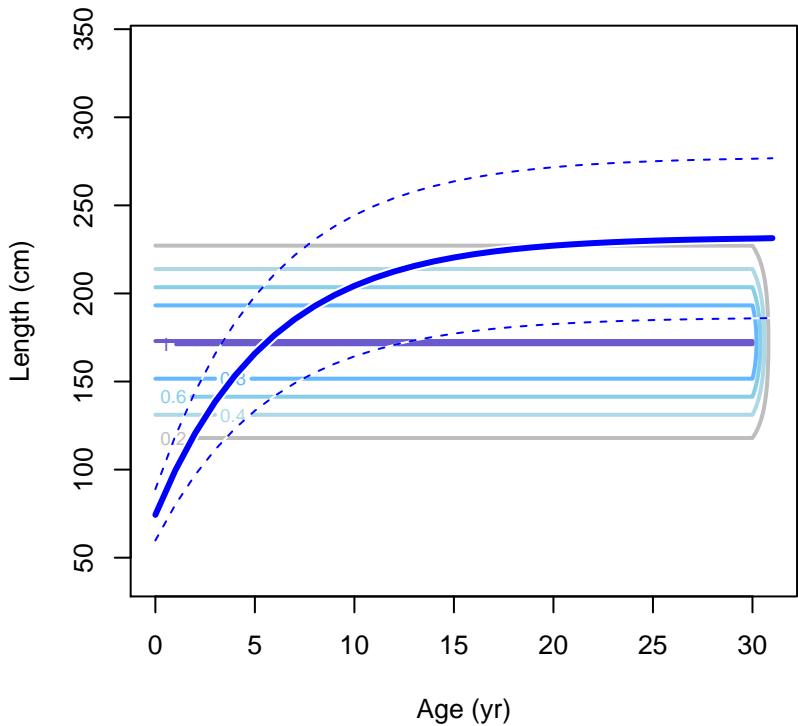
**Female ending year selectivity and growth for S2\_US\_DS**



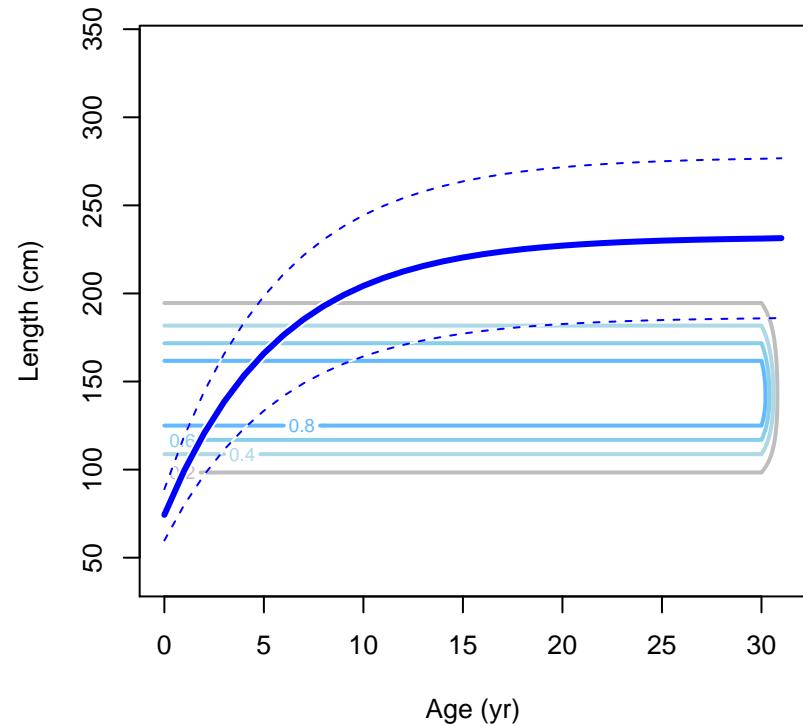
**Female ending year selectivity and growth for S3\_TW\_LRG**



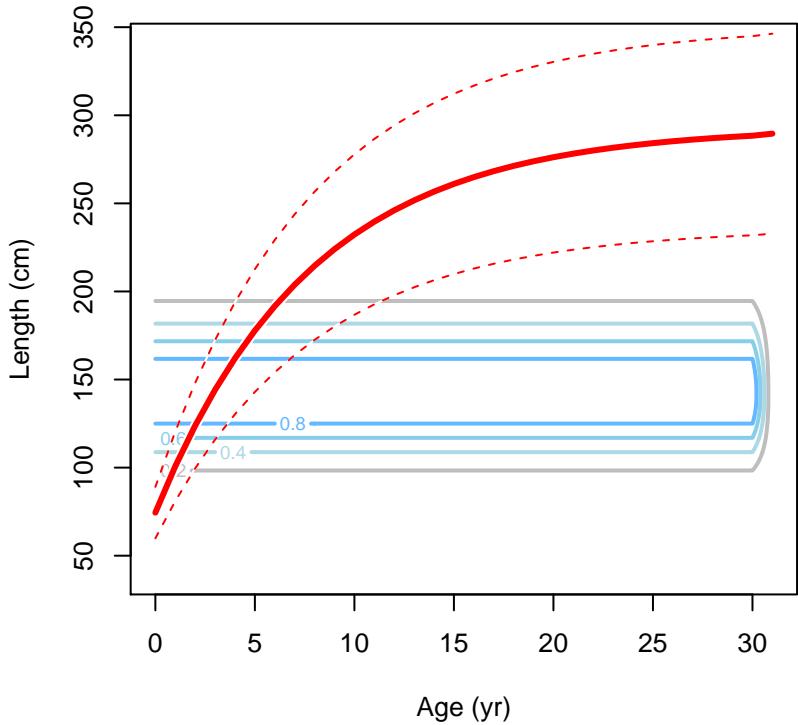
**Male ending year selectivity and growth for S2\_US\_DS**



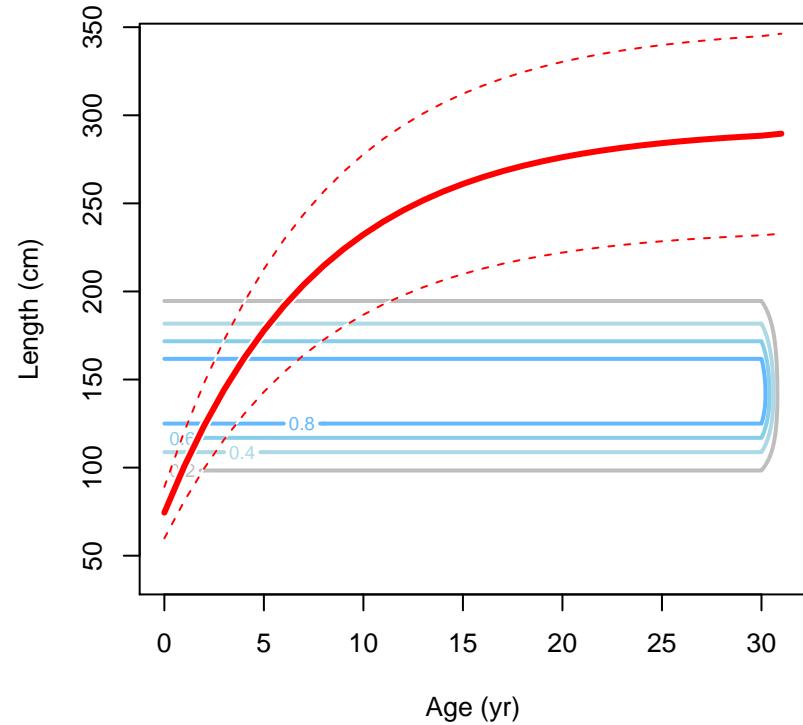
**Male ending year selectivity and growth for S3\_TW\_LRG**



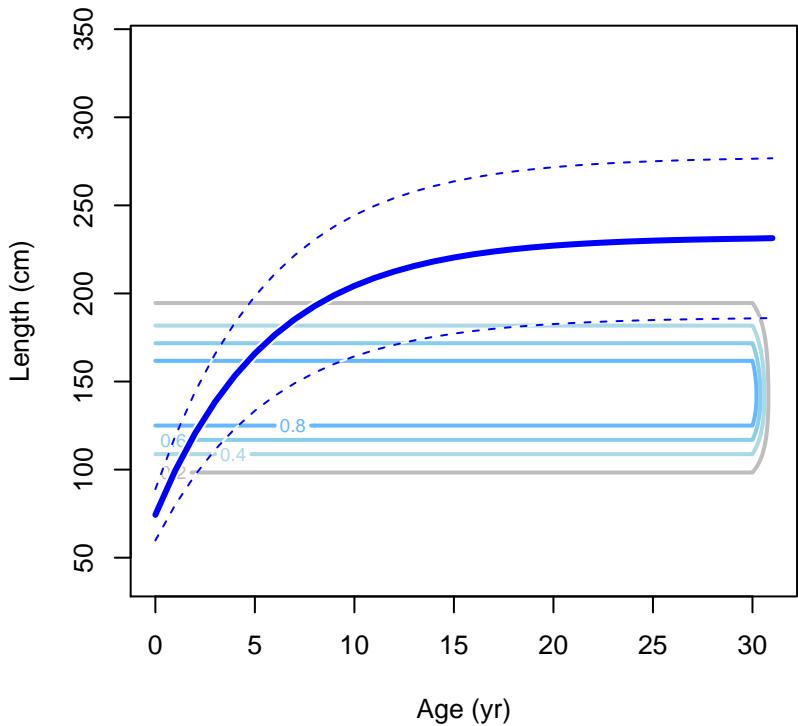
**Female ending year selectivity and growth for S4\_JPN\_SS**



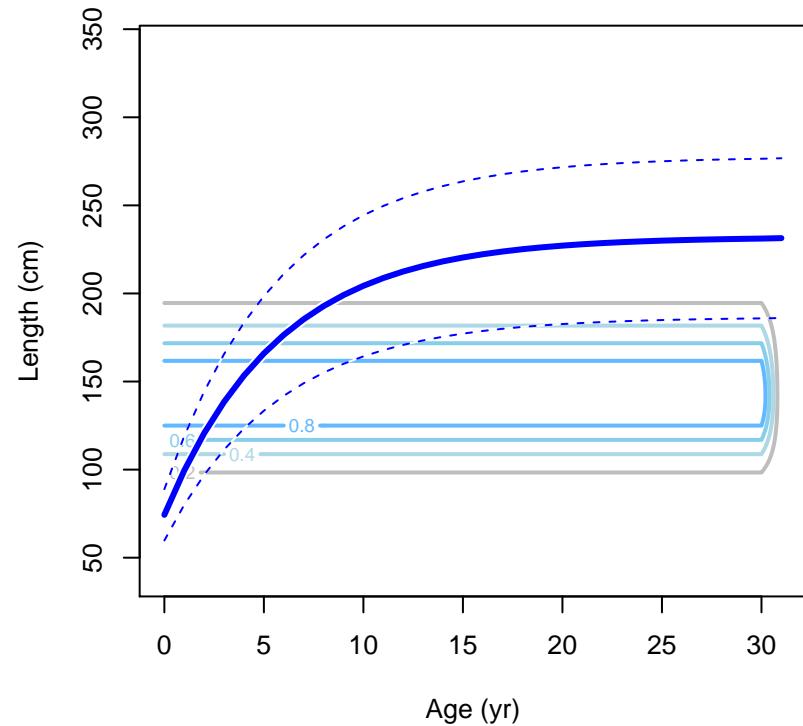
**Female ending year selectivity and growth for S5\_JPN\_RTV**



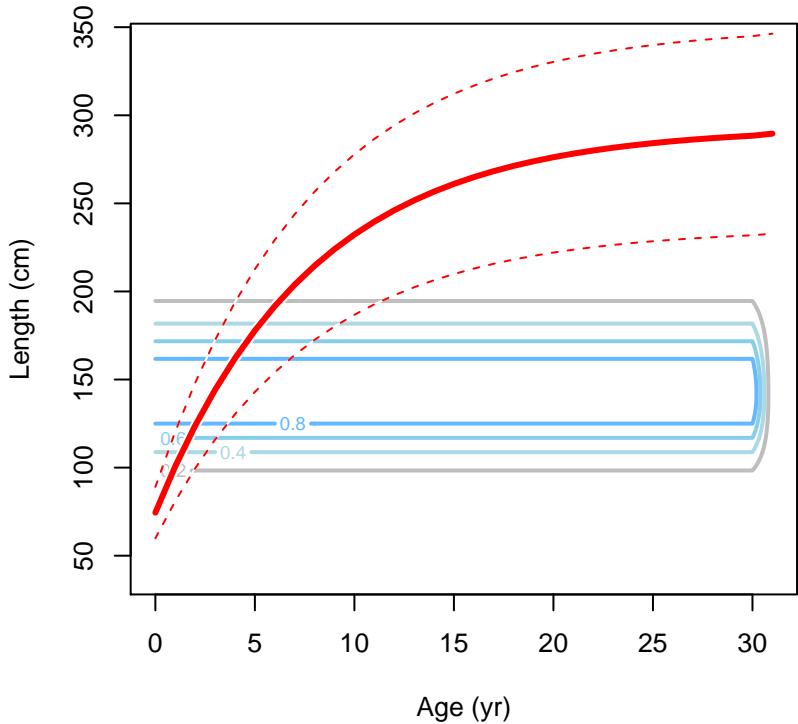
**Male ending year selectivity and growth for S4\_JPN\_SS**



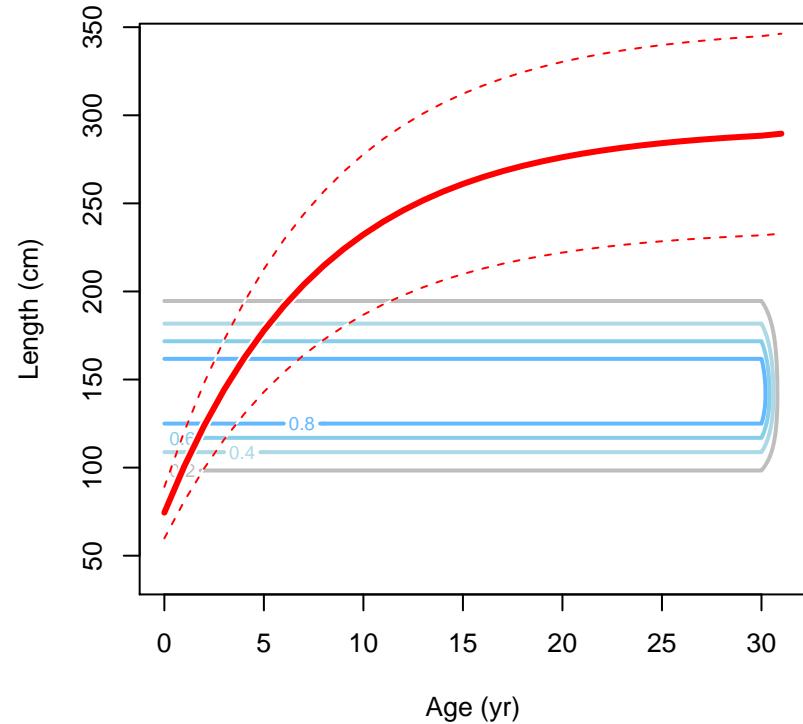
**Male ending year selectivity and growth for S5\_JPN\_RTV**



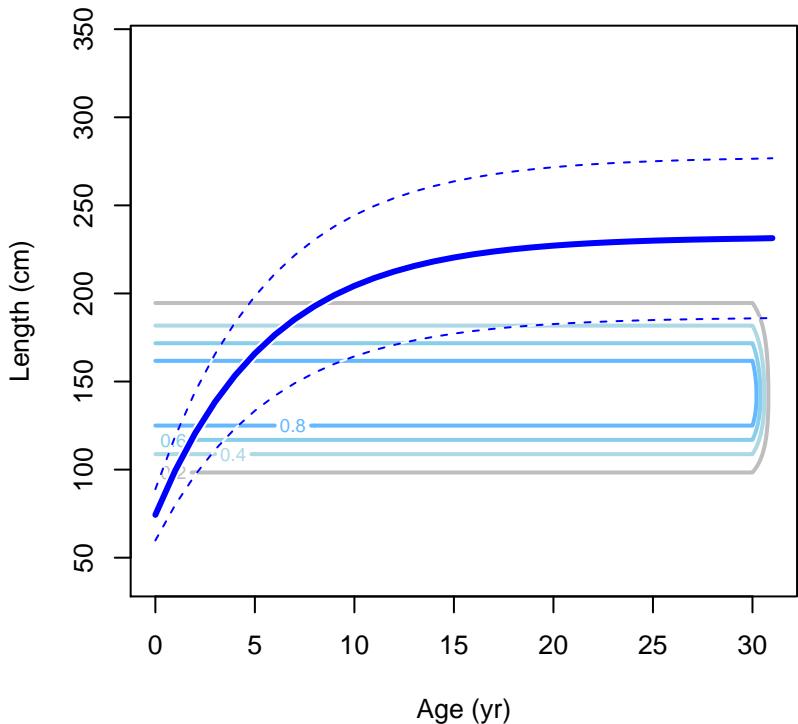
**Female ending year selectivity and growth for S6\_JPN\_OBS**



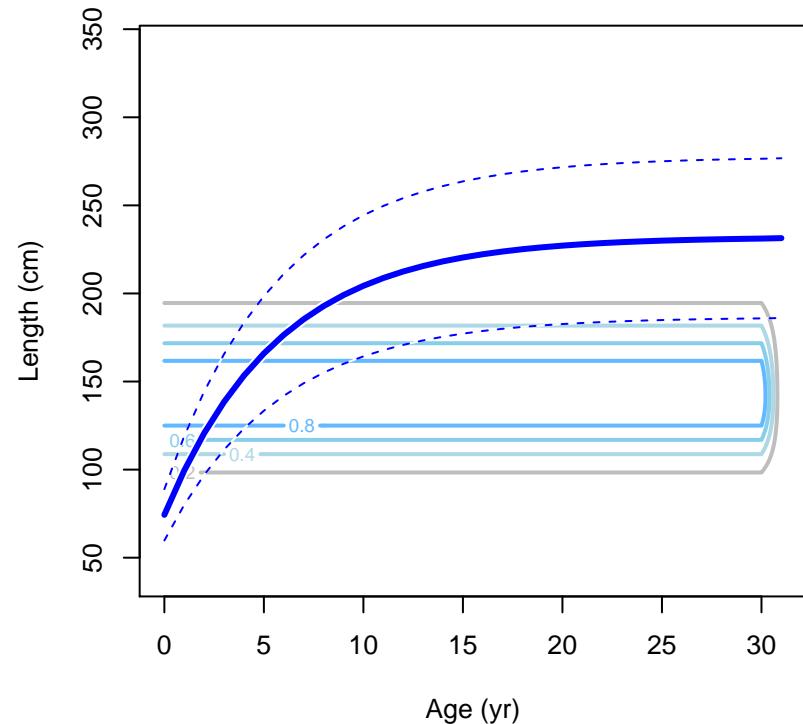
**Female ending year selectivity and growth for S7\_JPN\_GEO**



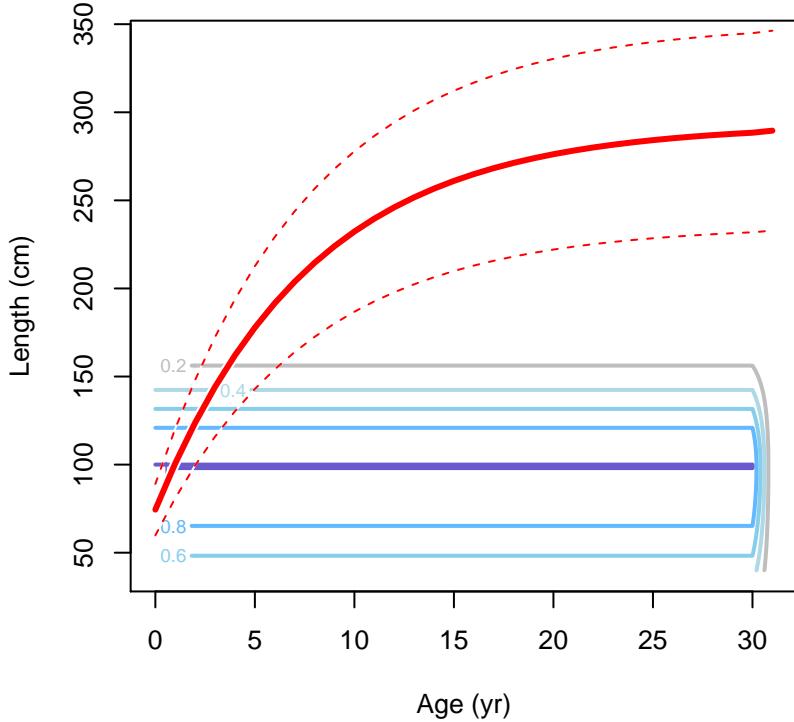
**Male ending year selectivity and growth for S6\_JPN\_OBS**



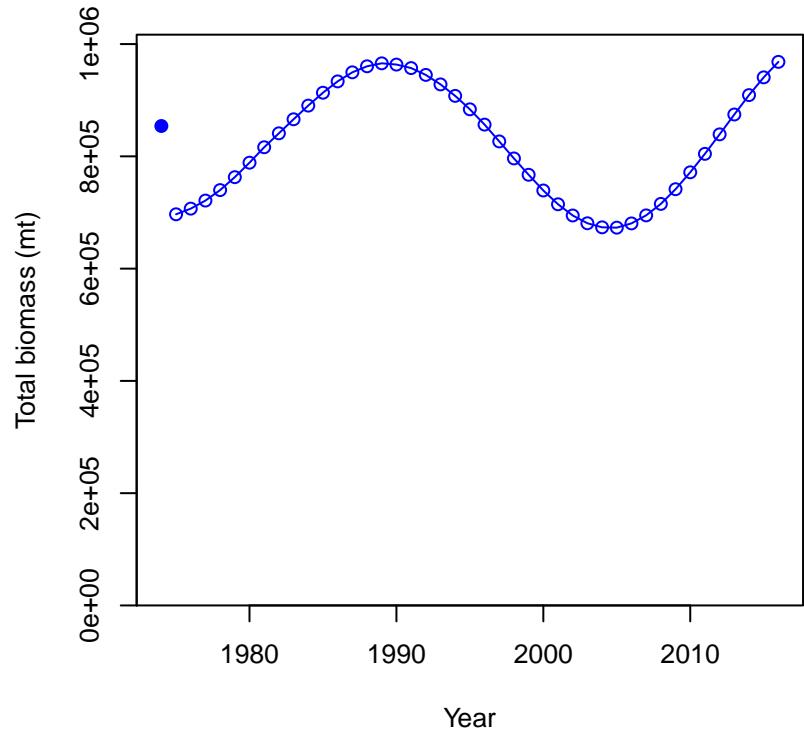
**Male ending year selectivity and growth for S7\_JPN\_GEO**



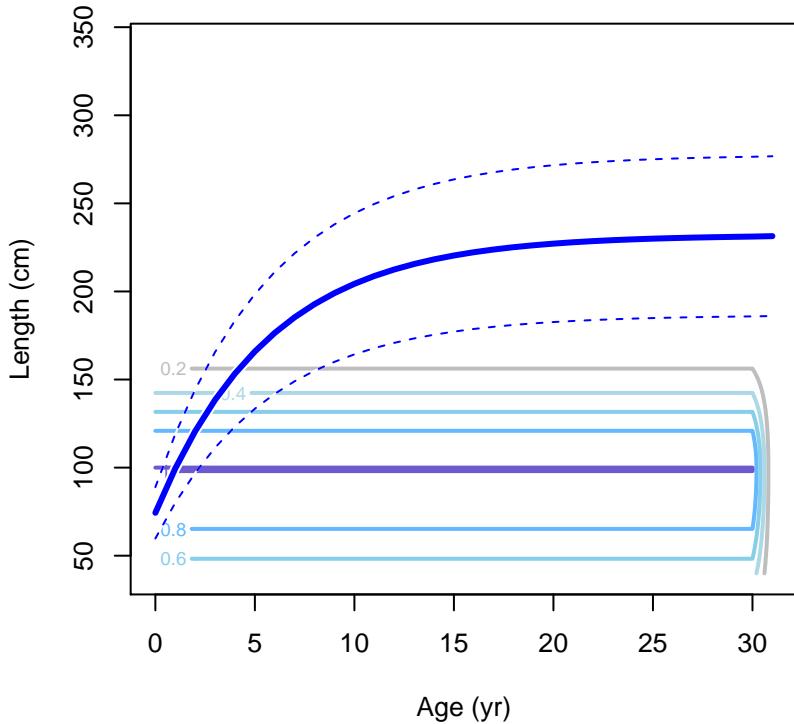
**Female ending year selectivity and growth for S8\_MEX**



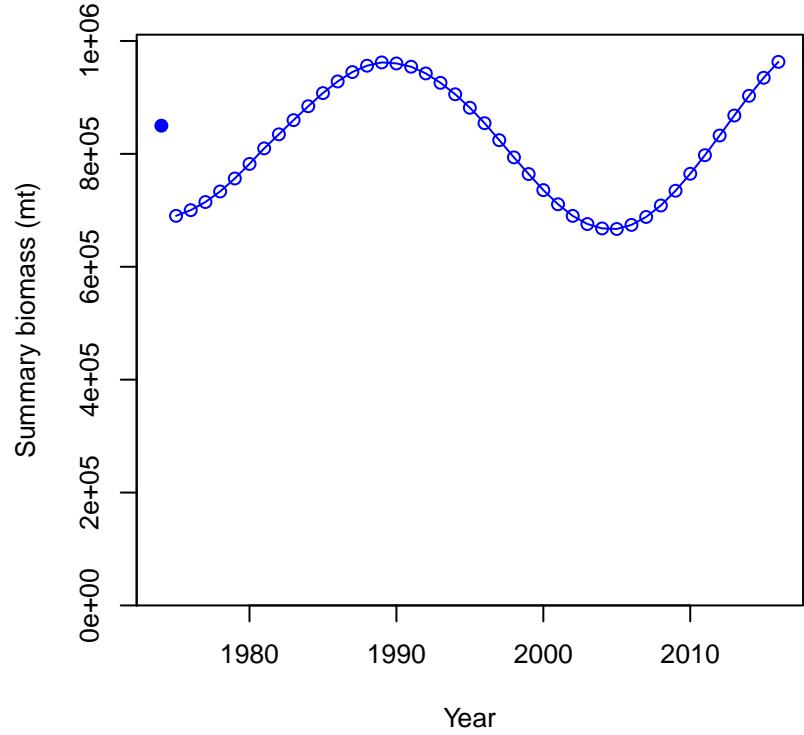
**Total biomass (mt)**

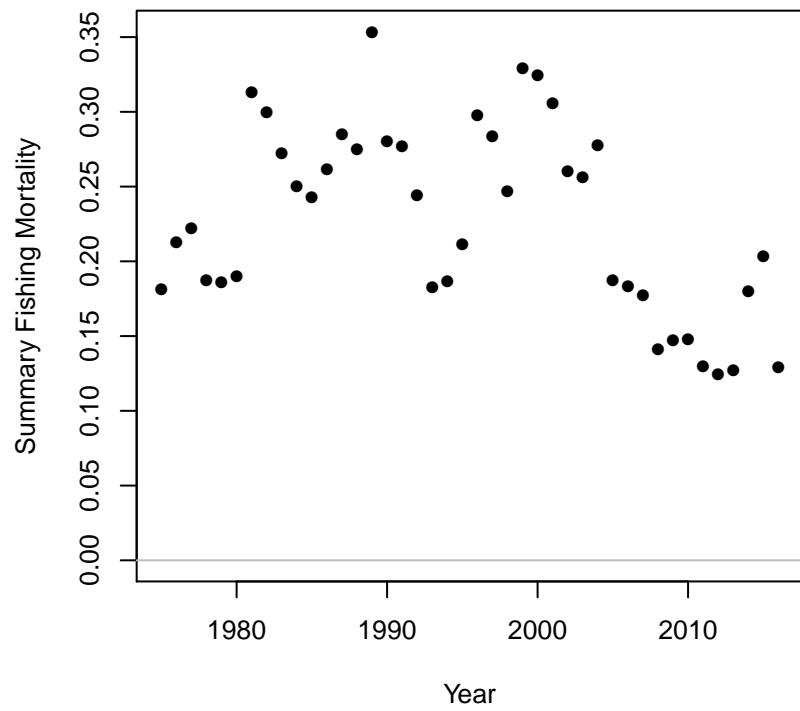
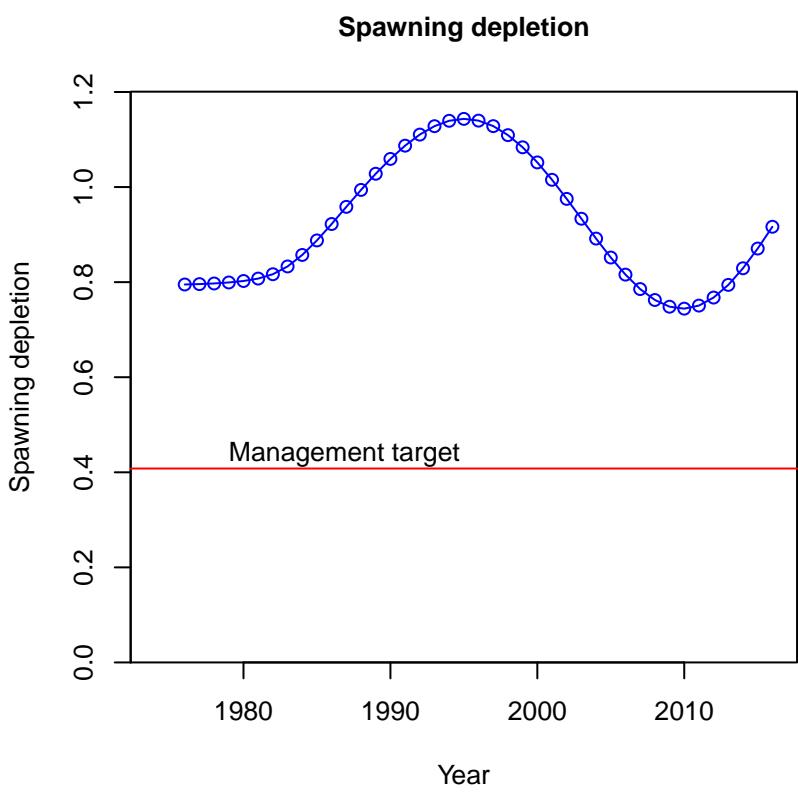
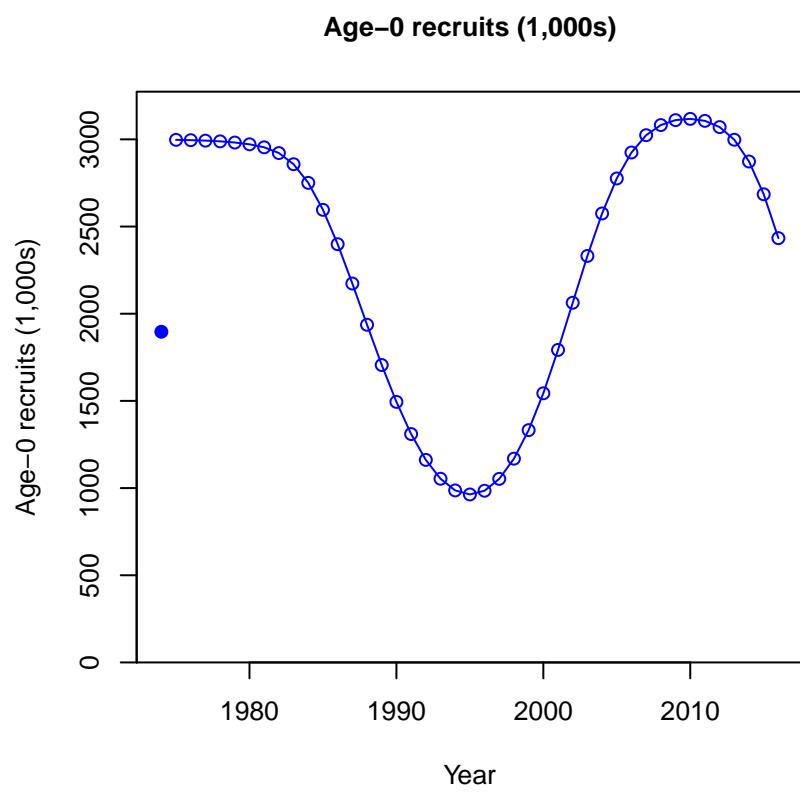
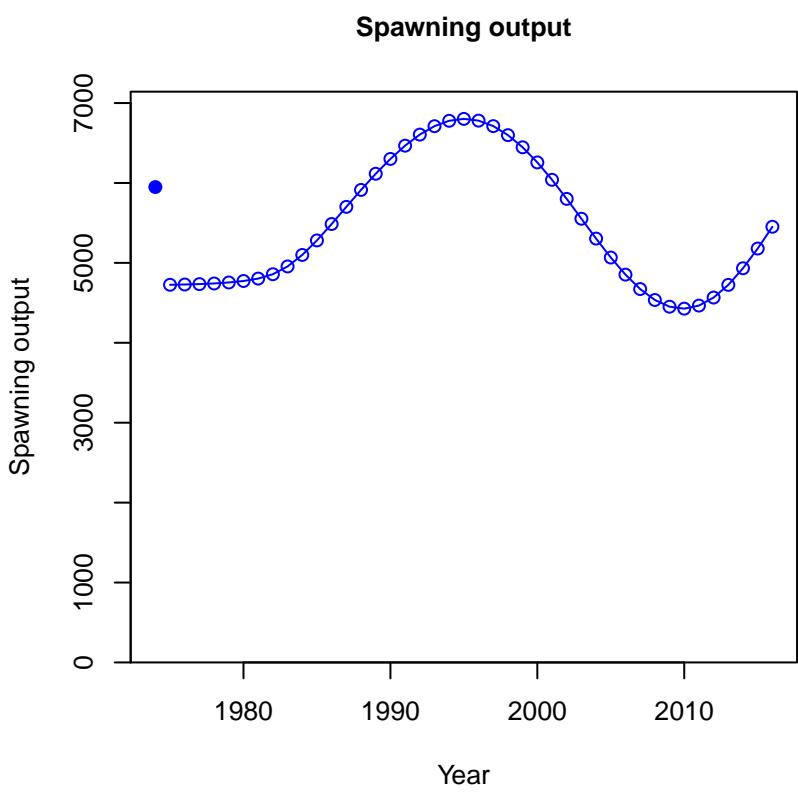


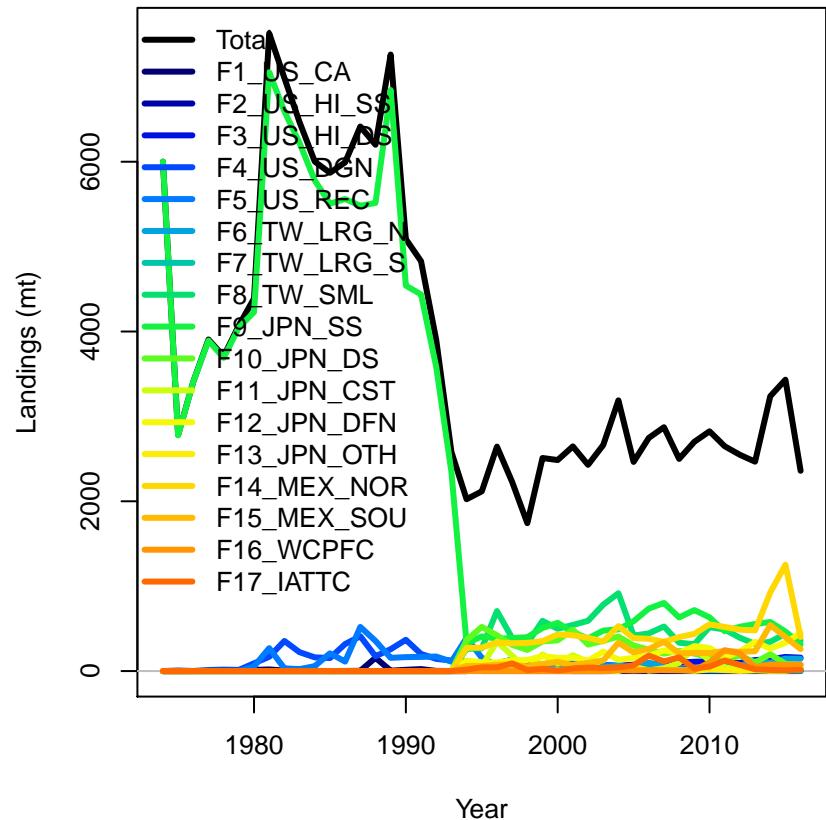
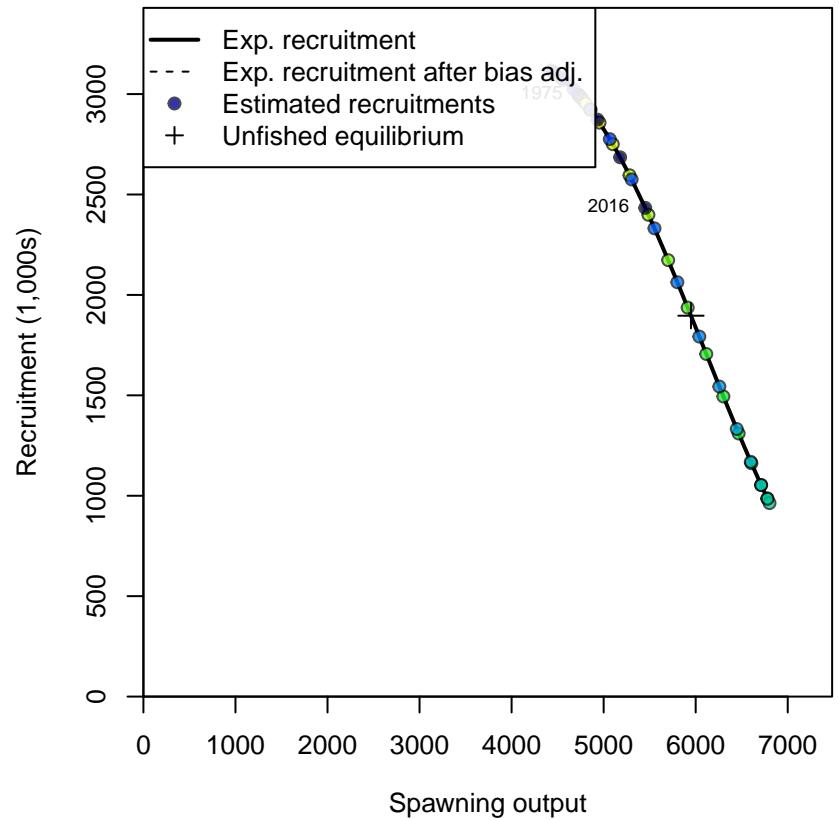
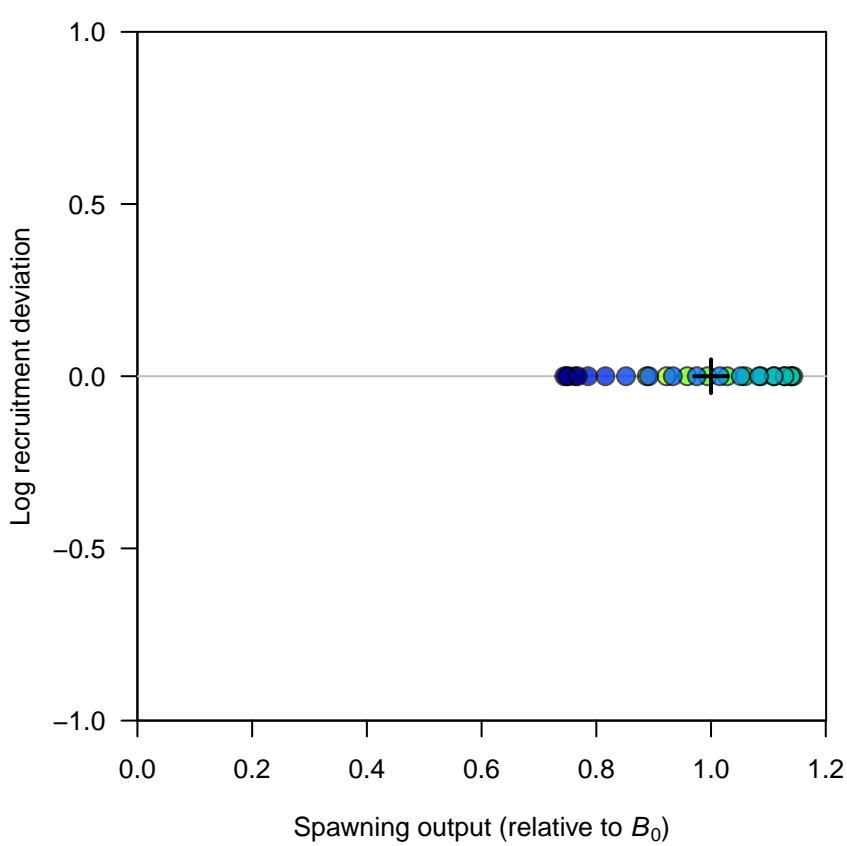
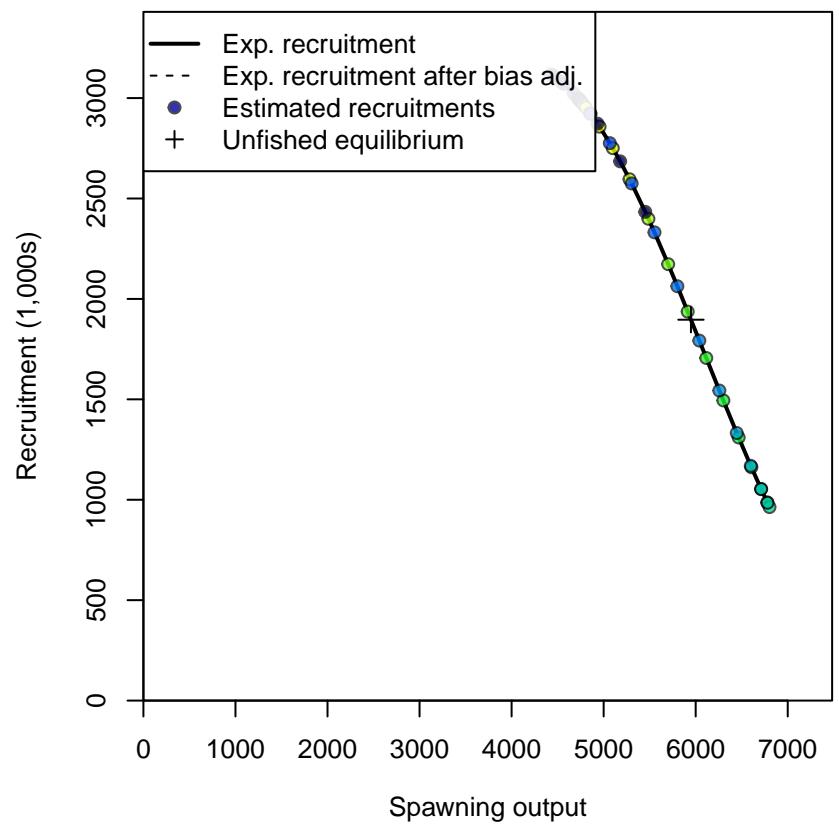
**Male ending year selectivity and growth for S8\_MEX**

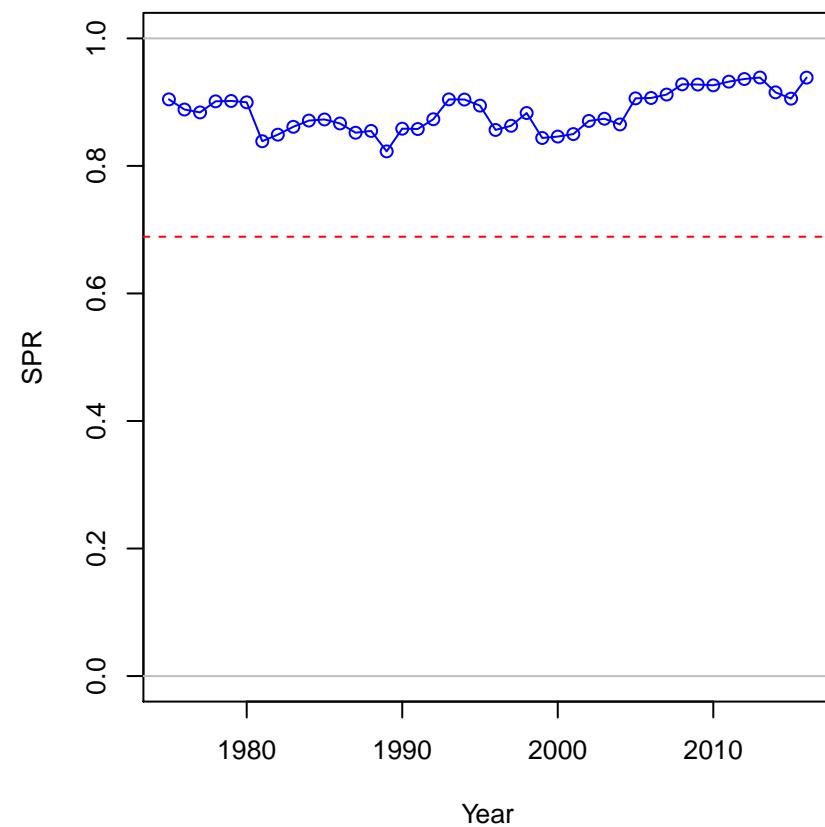
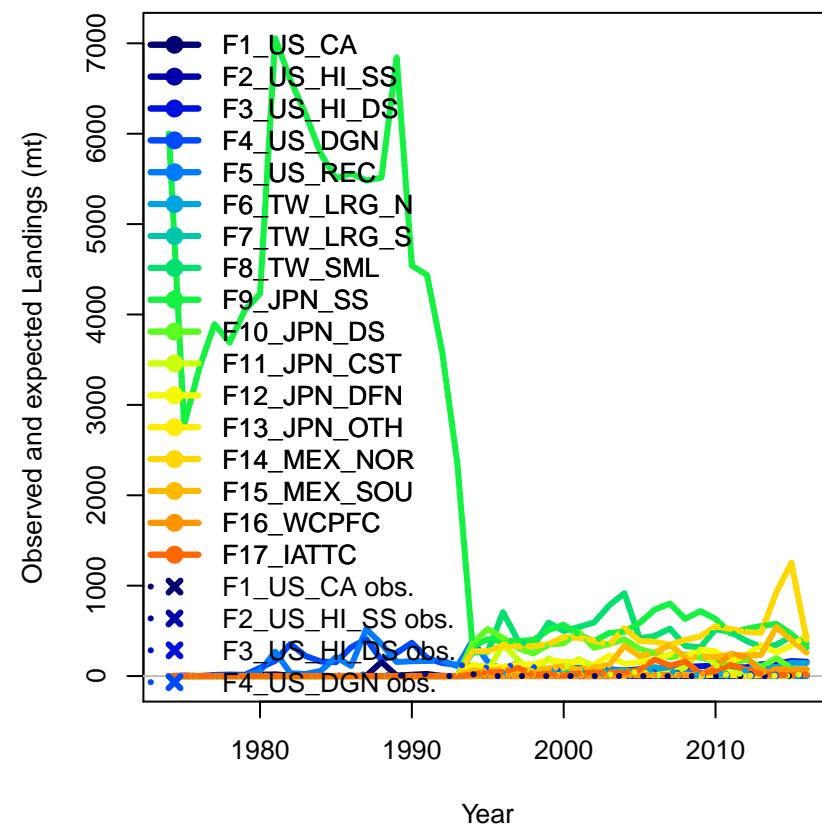
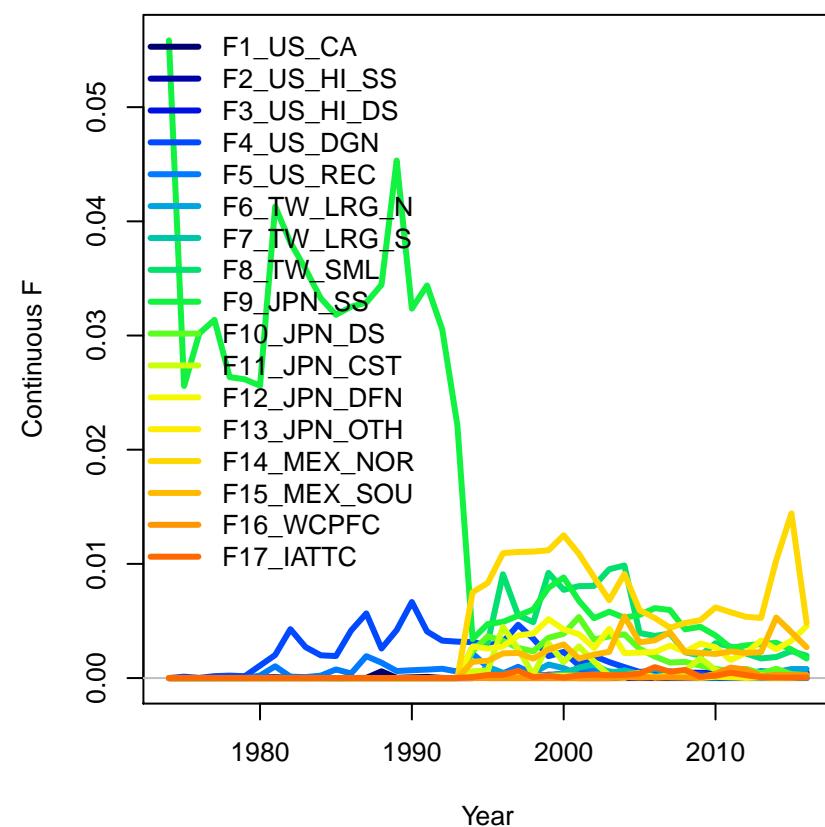
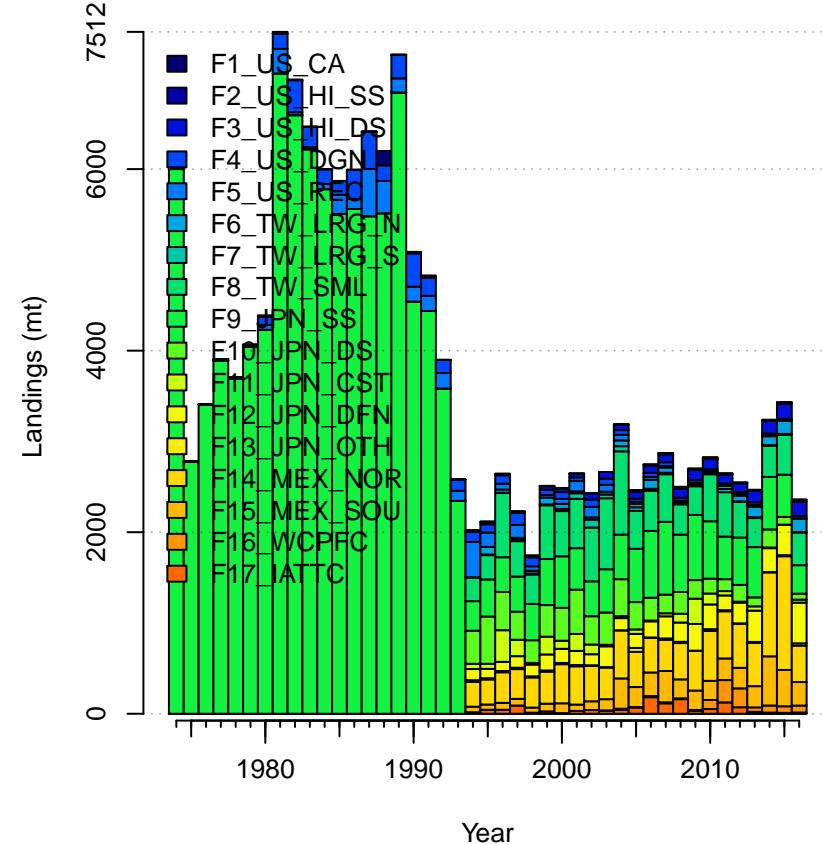


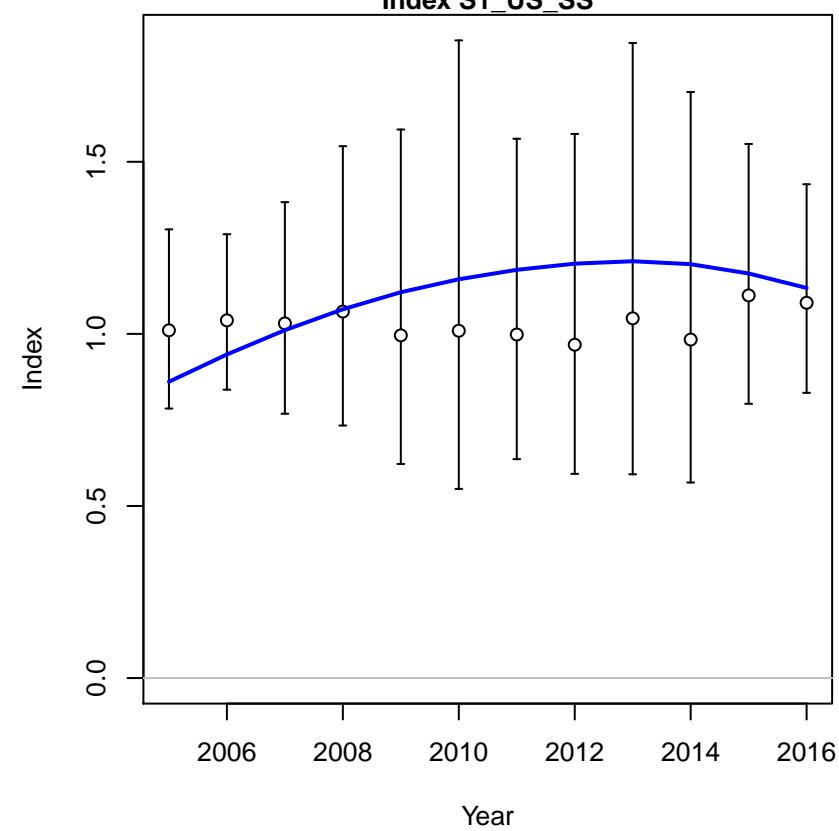
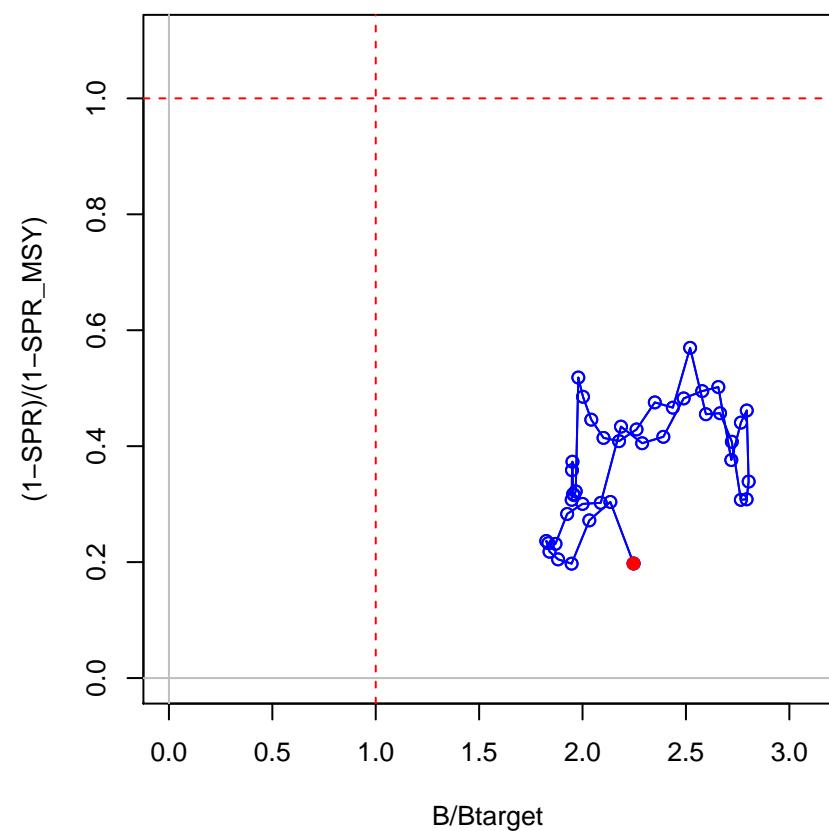
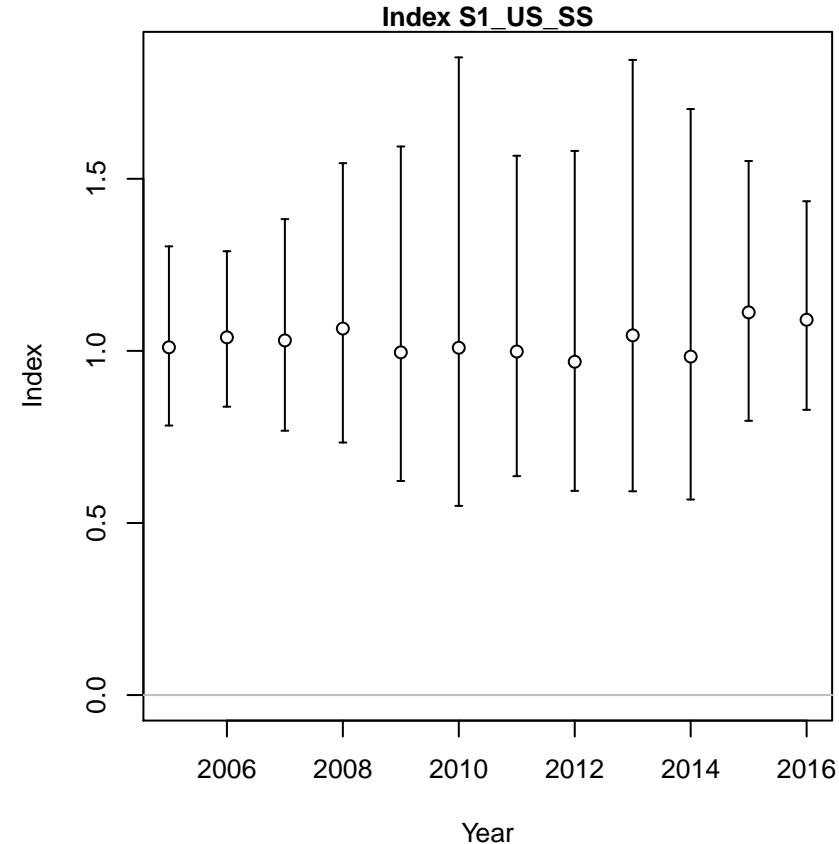
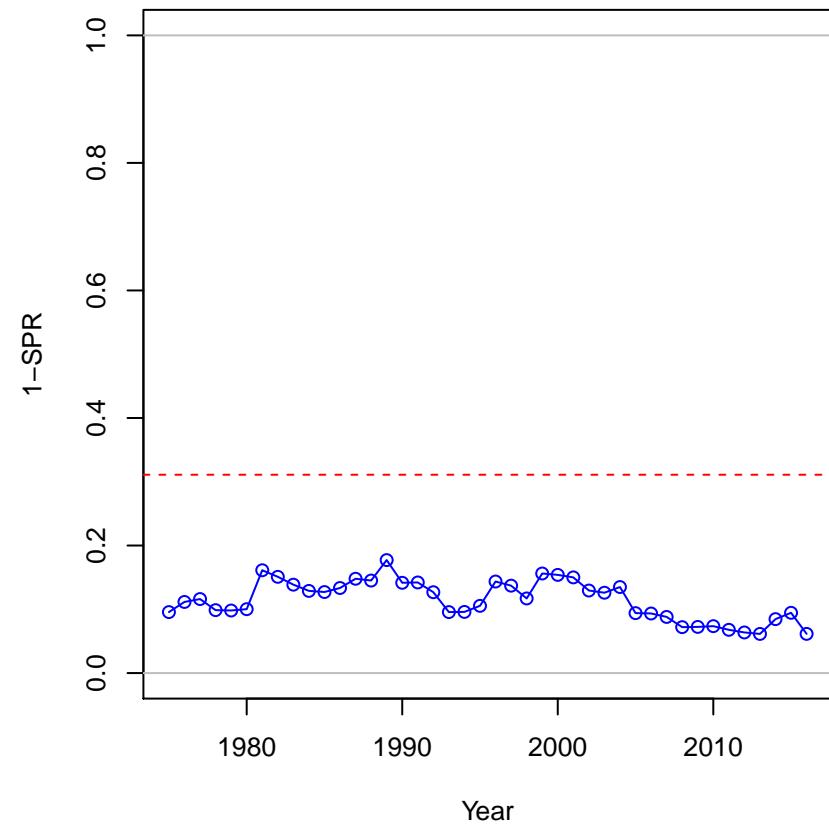
**Summary biomass (mt)**

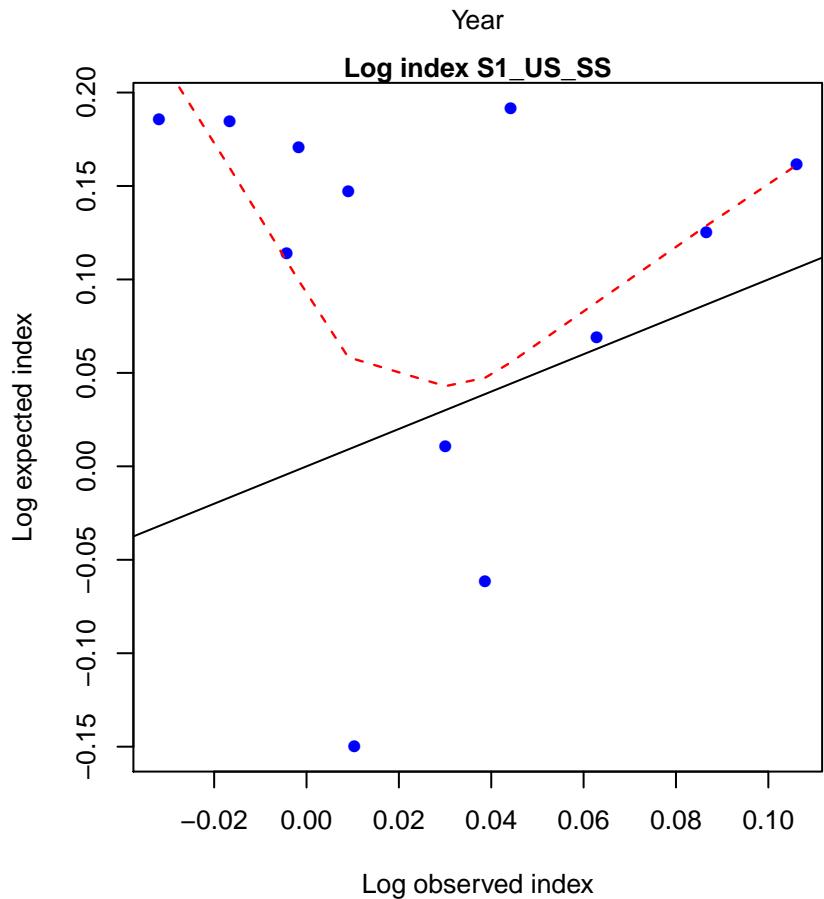
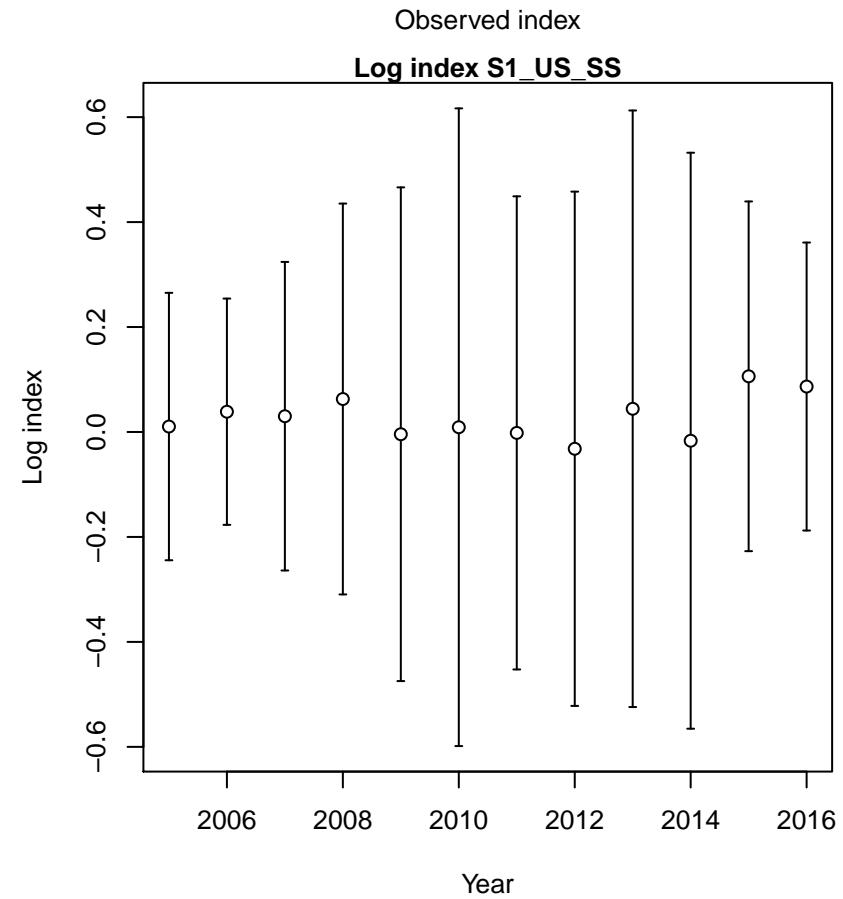
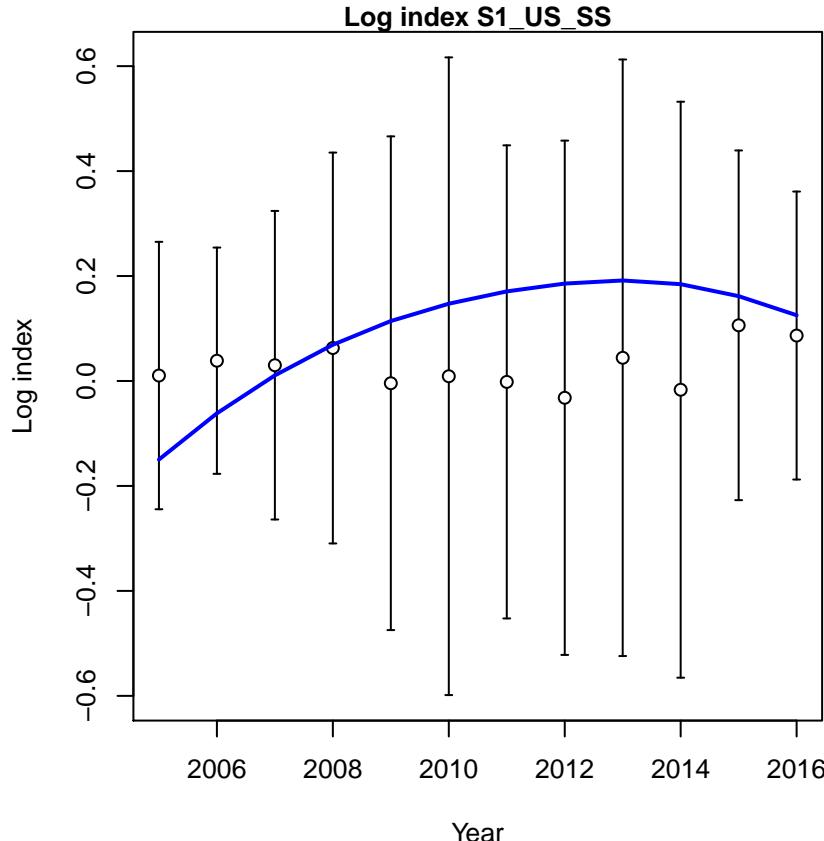
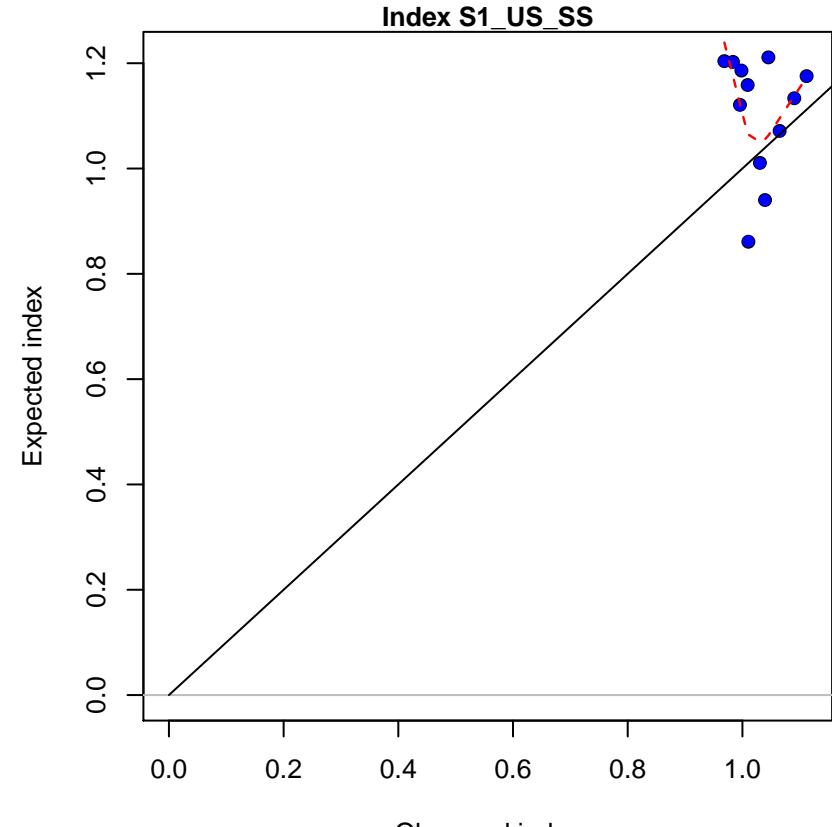


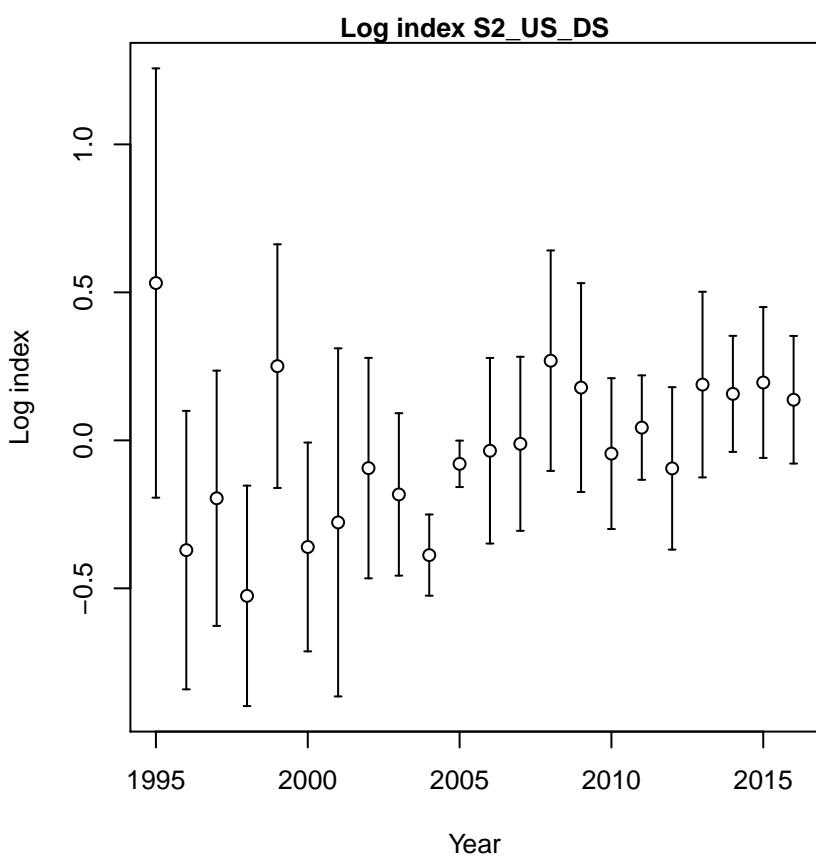
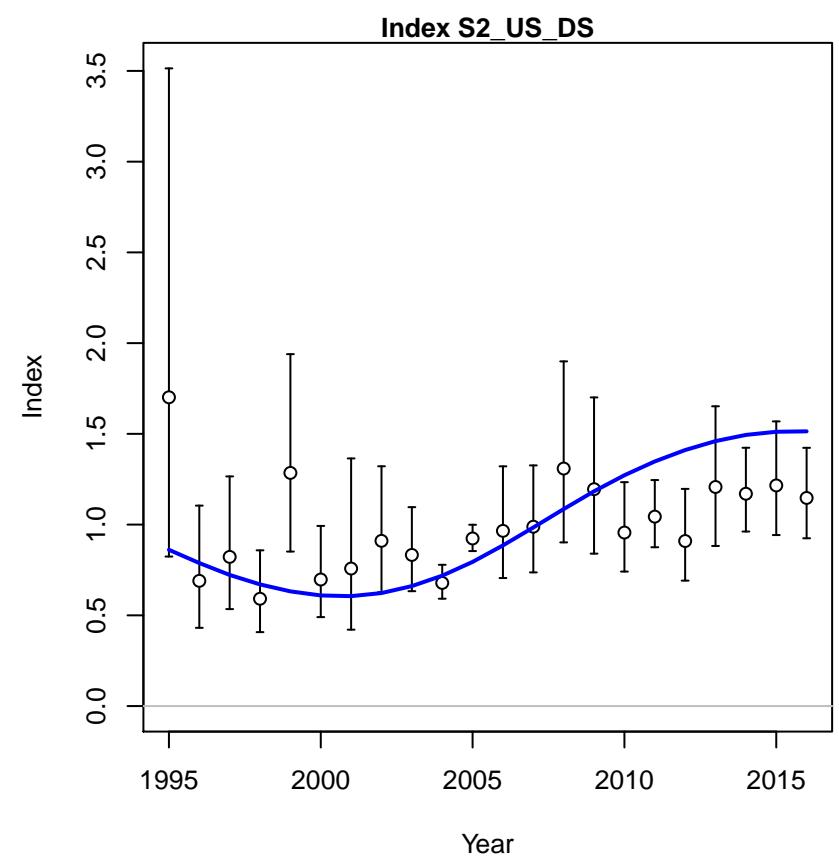
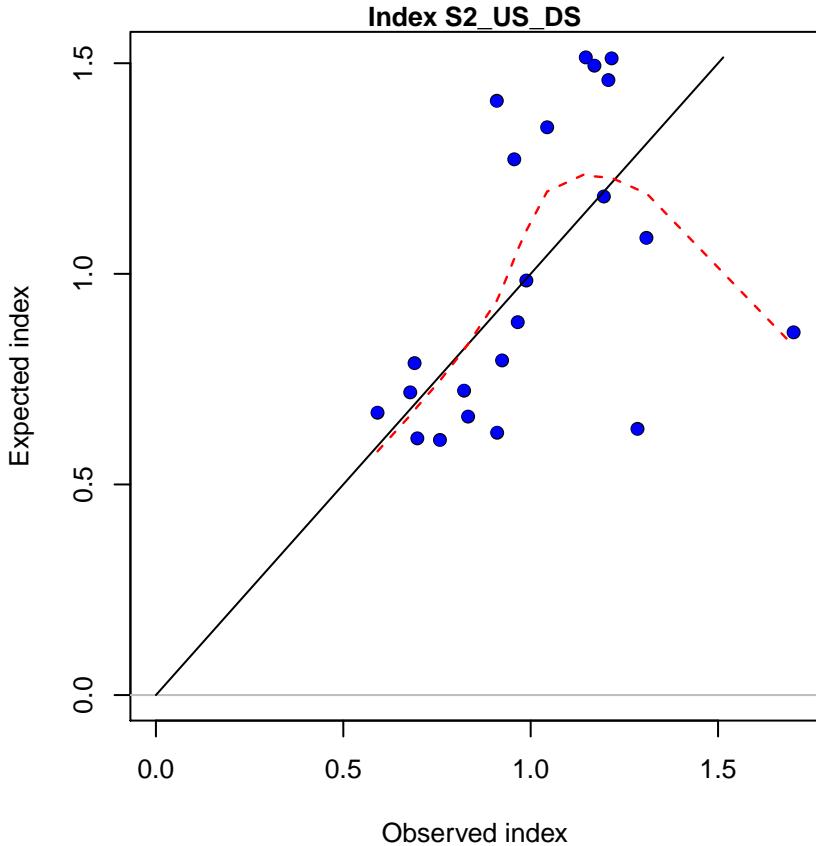
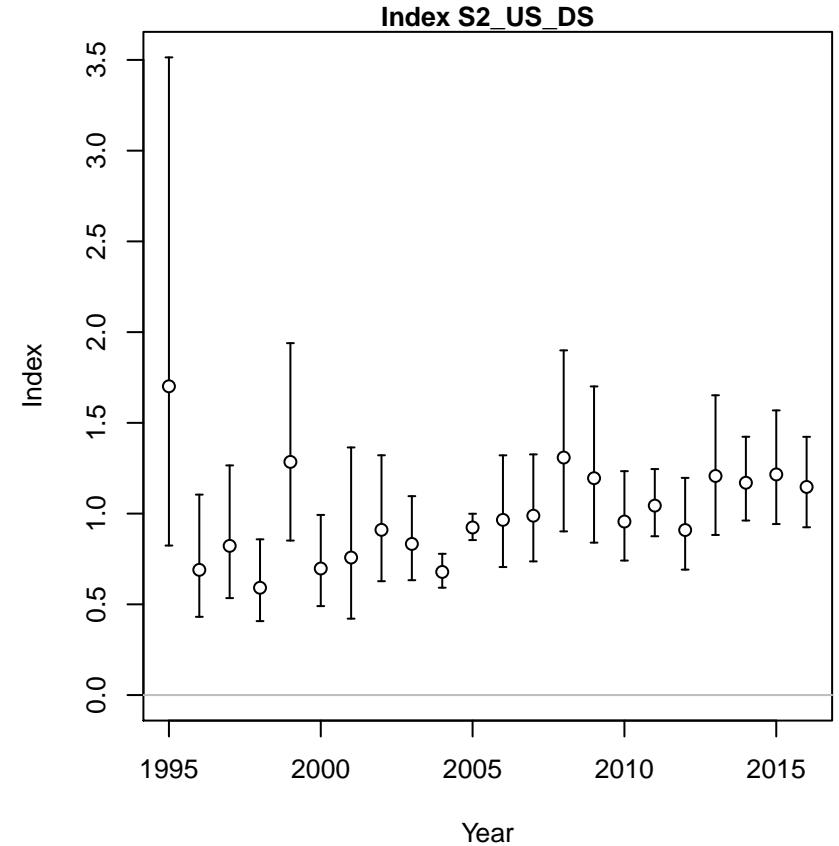


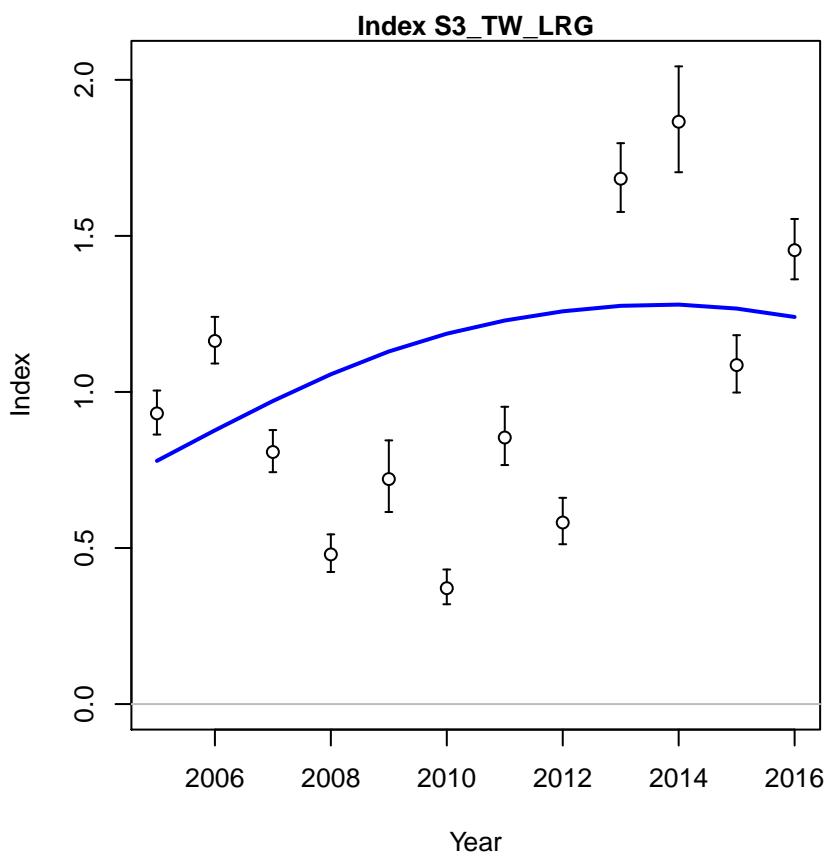
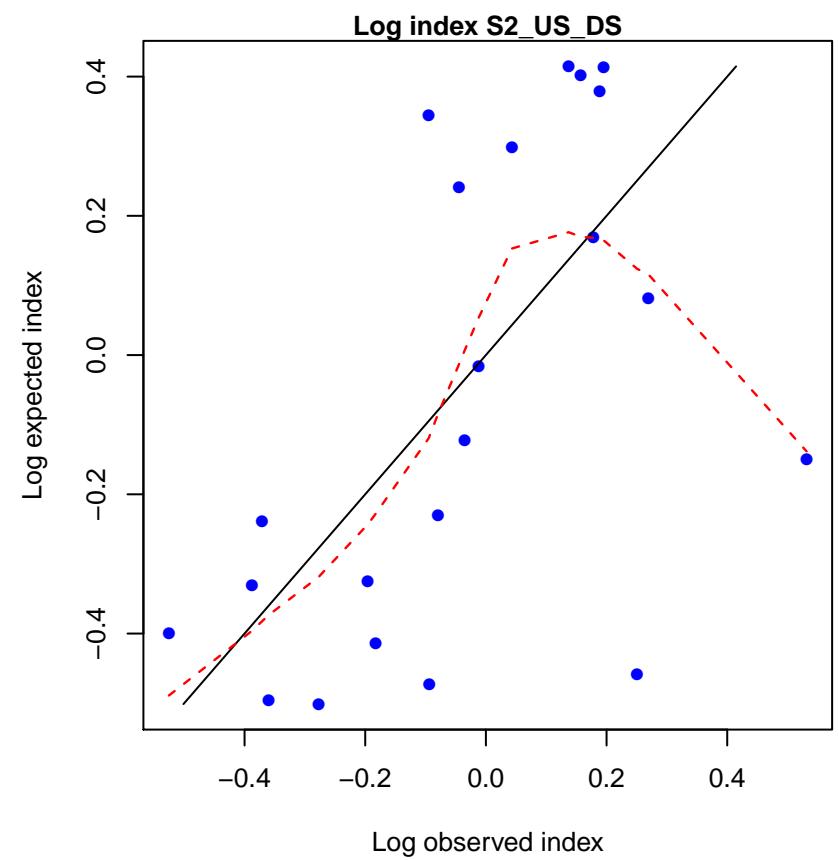
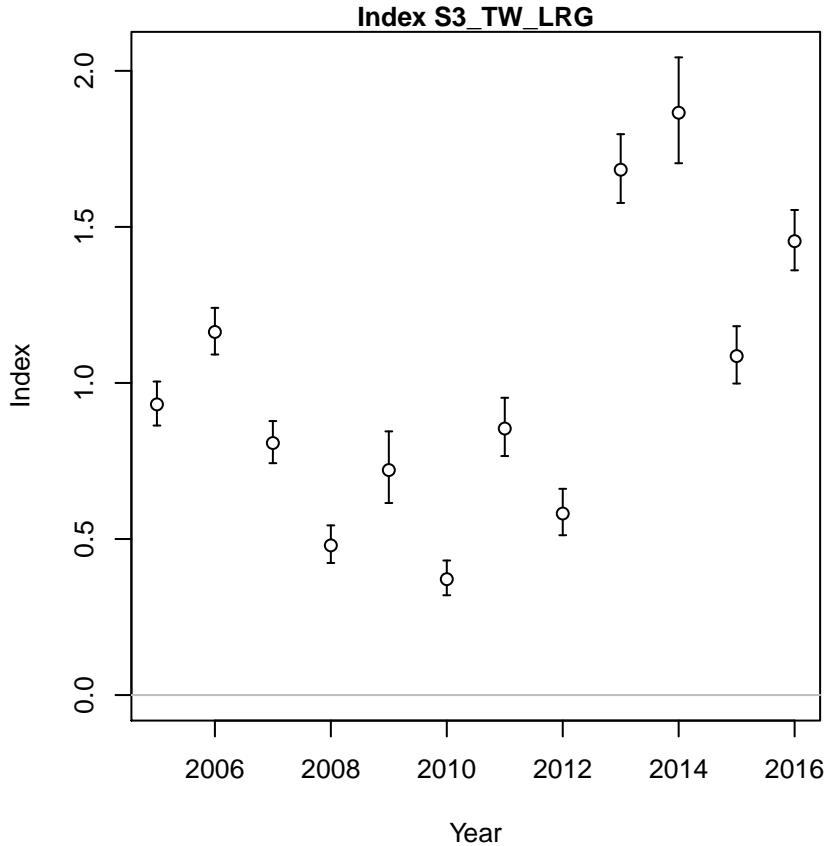
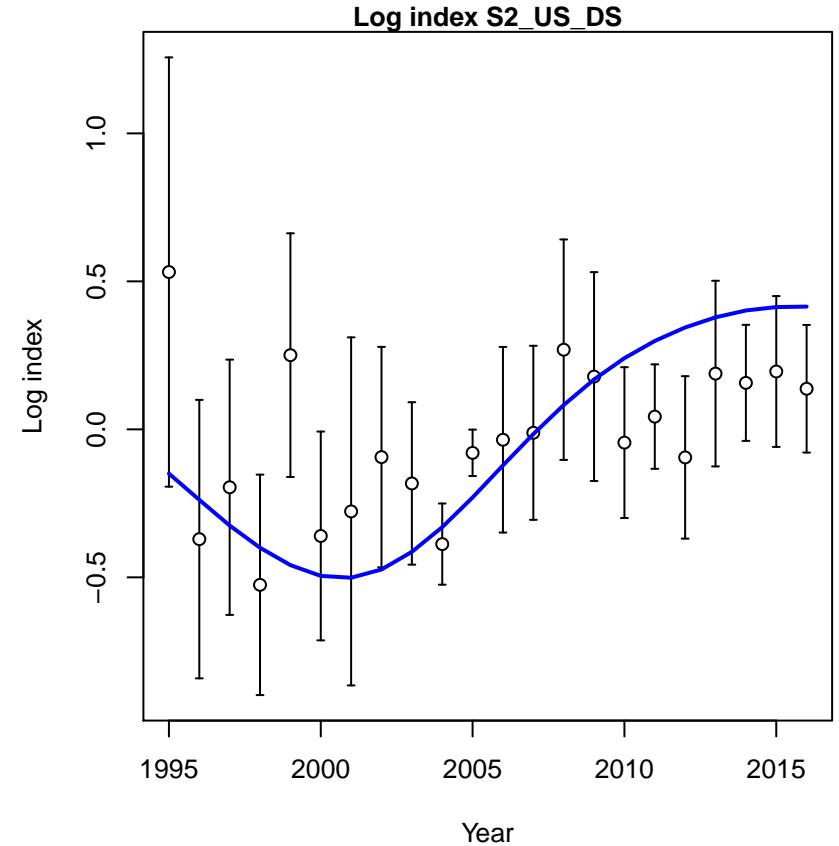


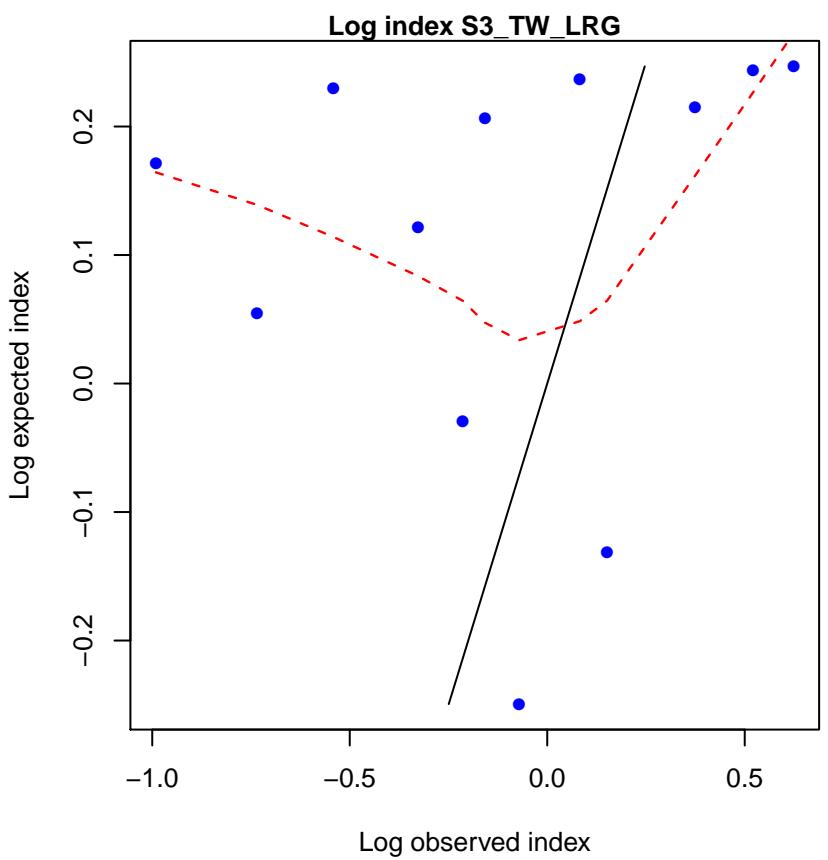
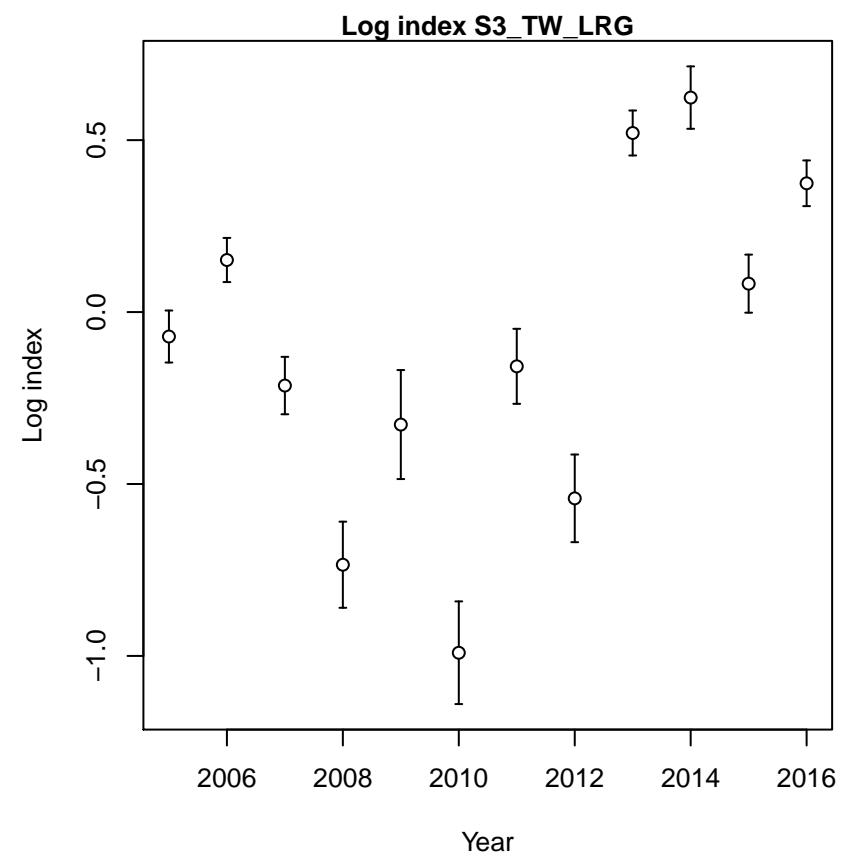
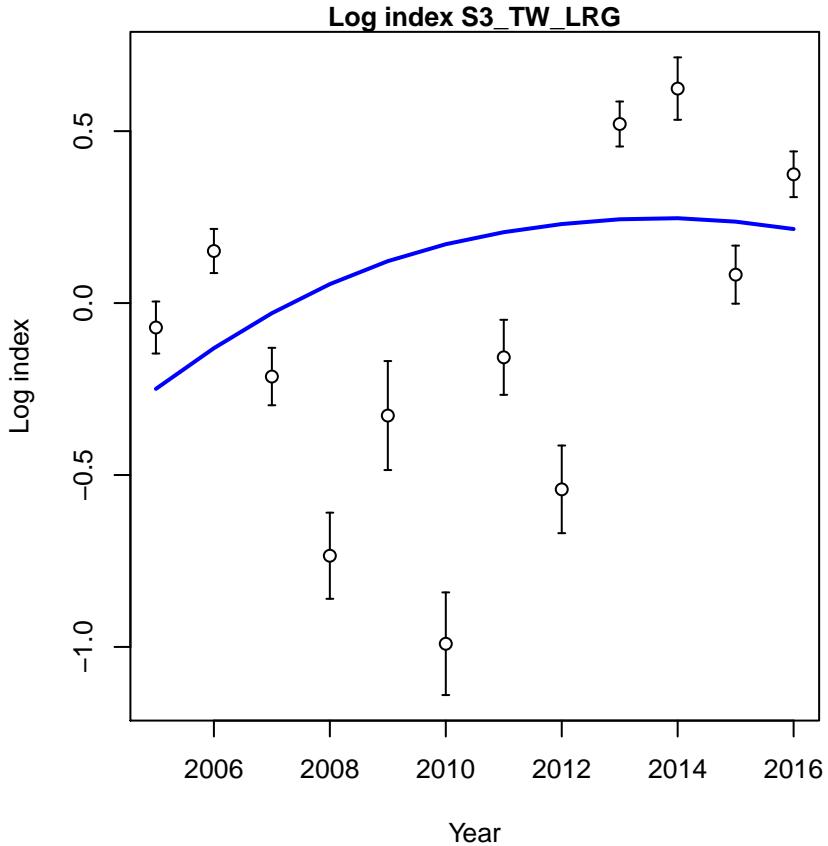
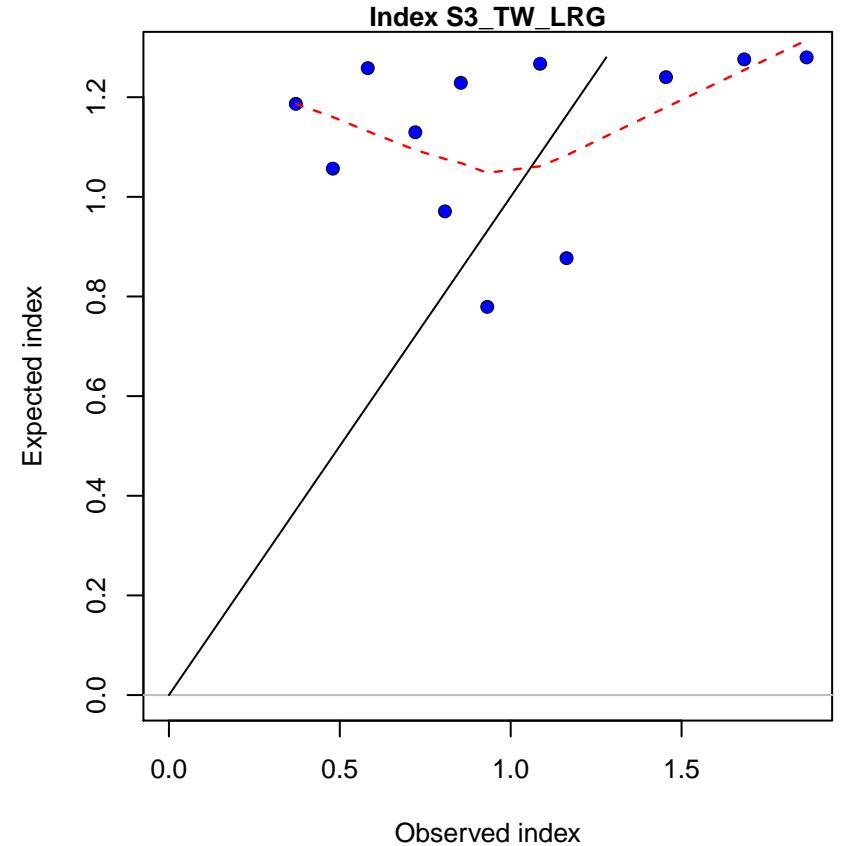


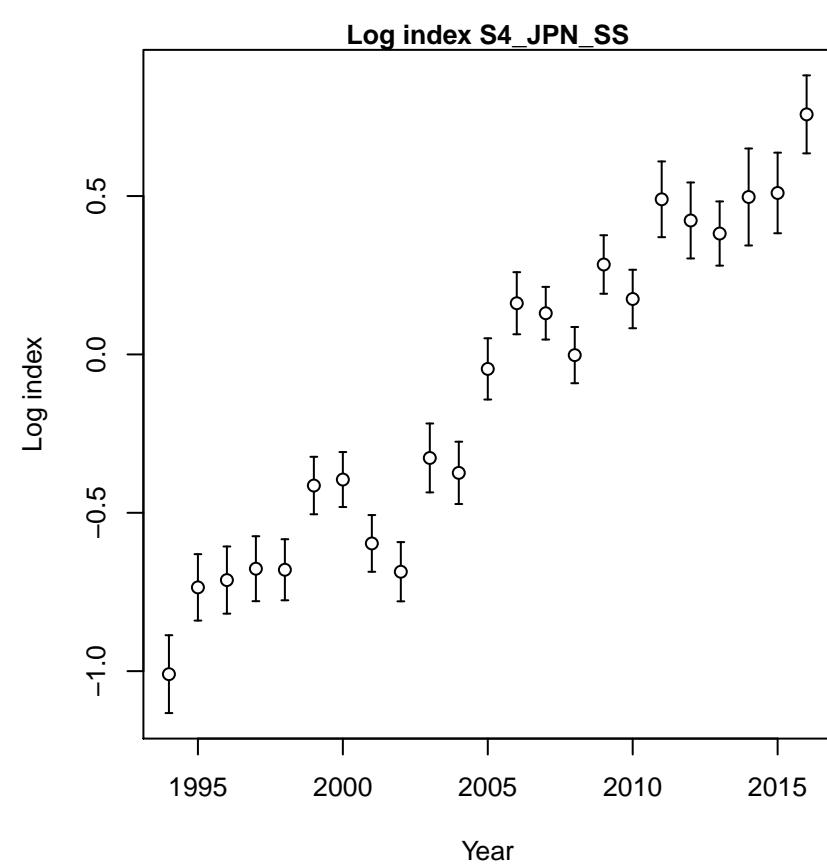
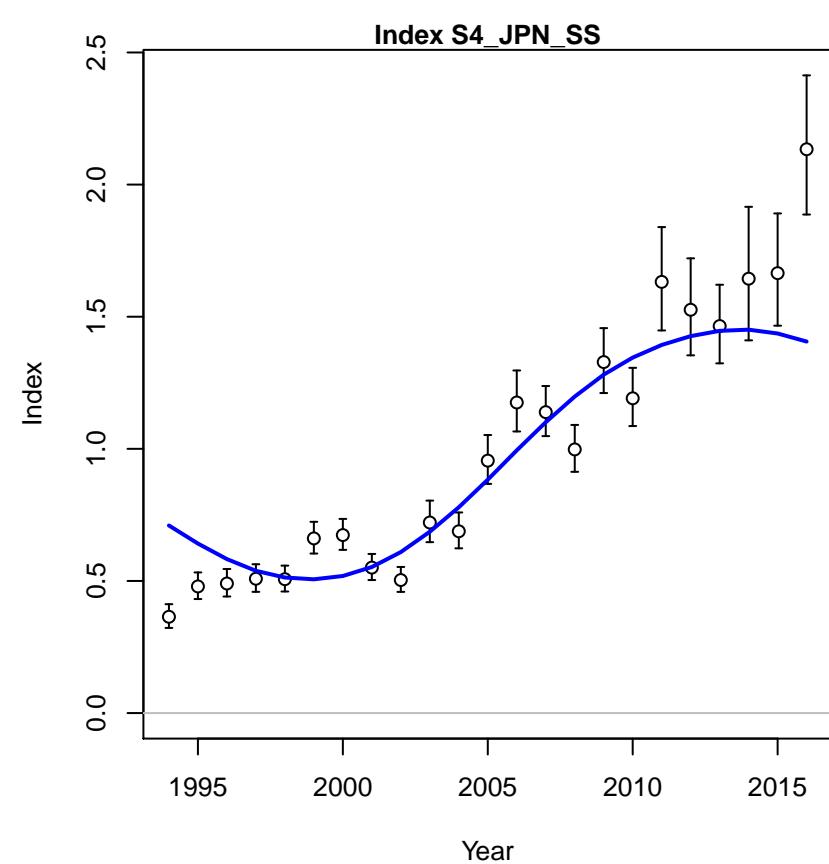
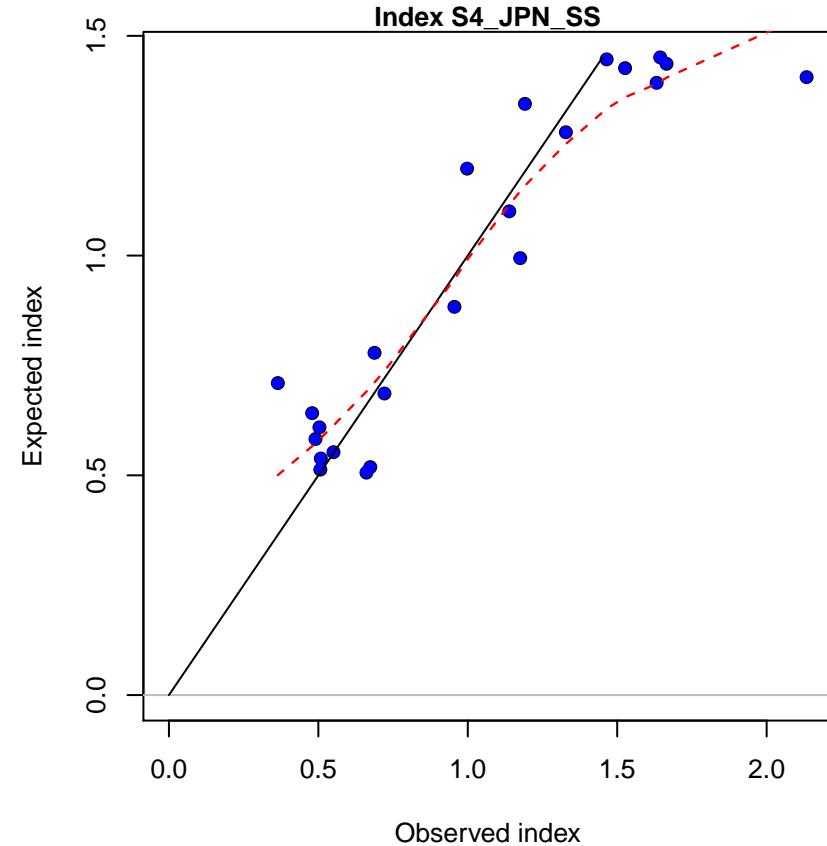
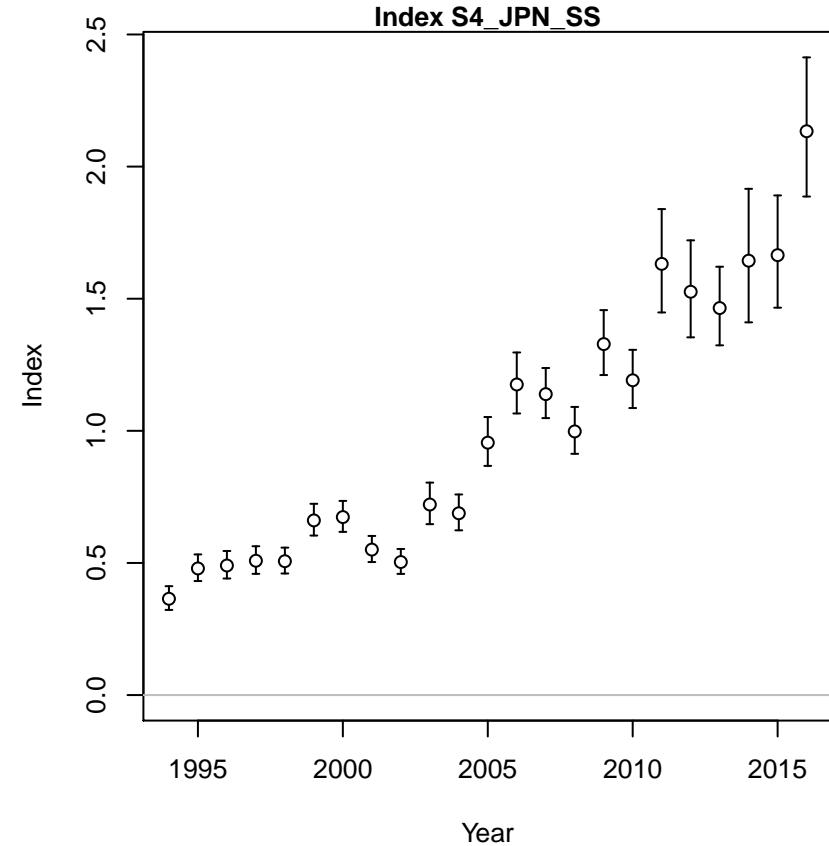


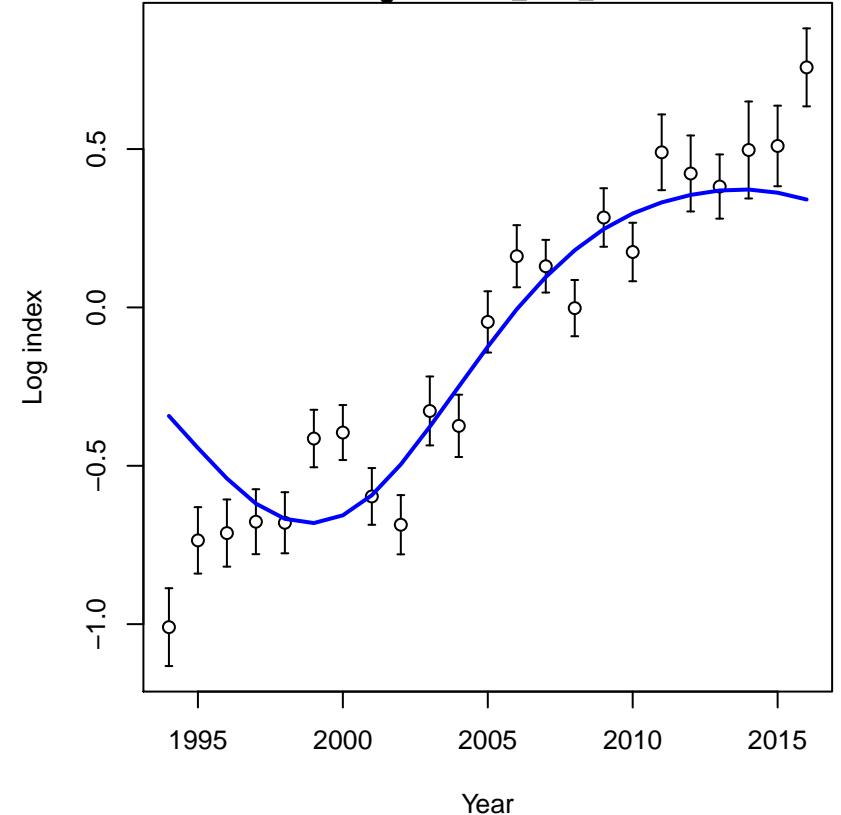
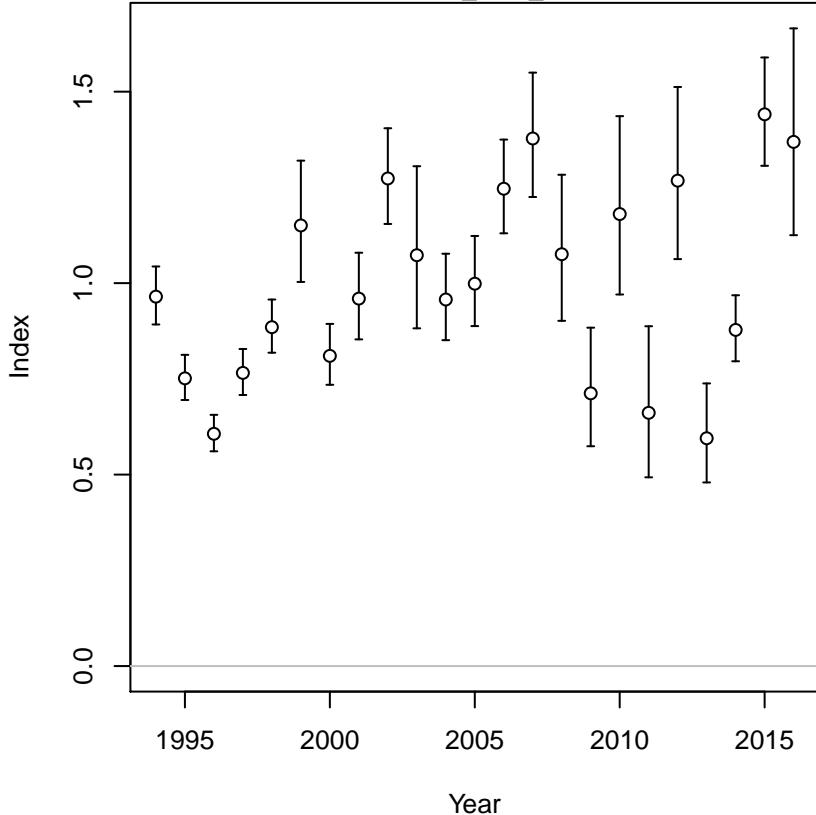
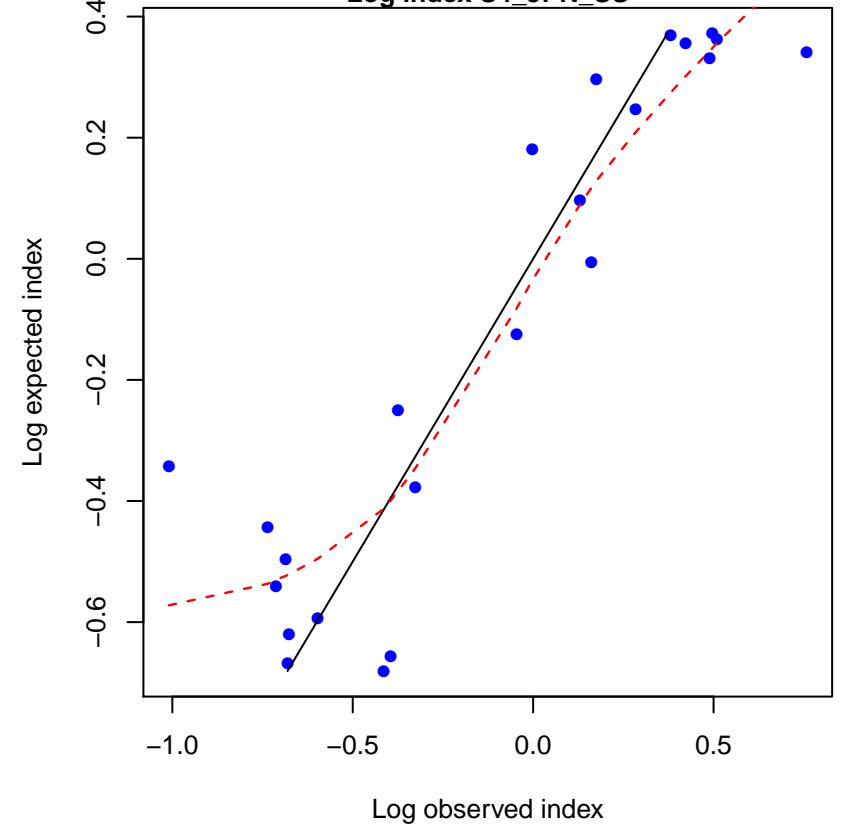
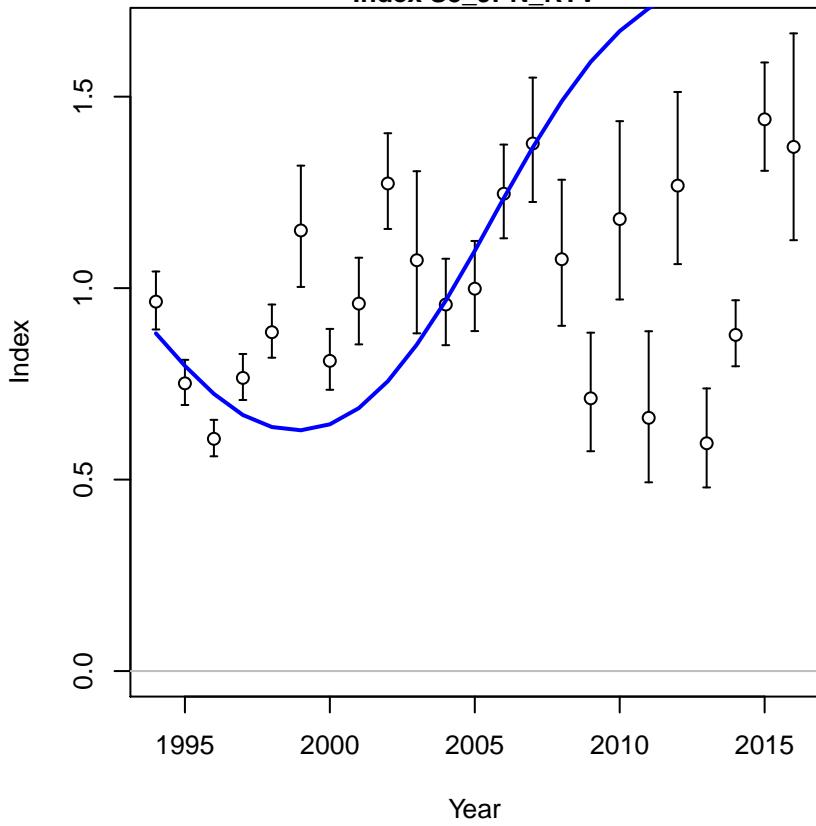


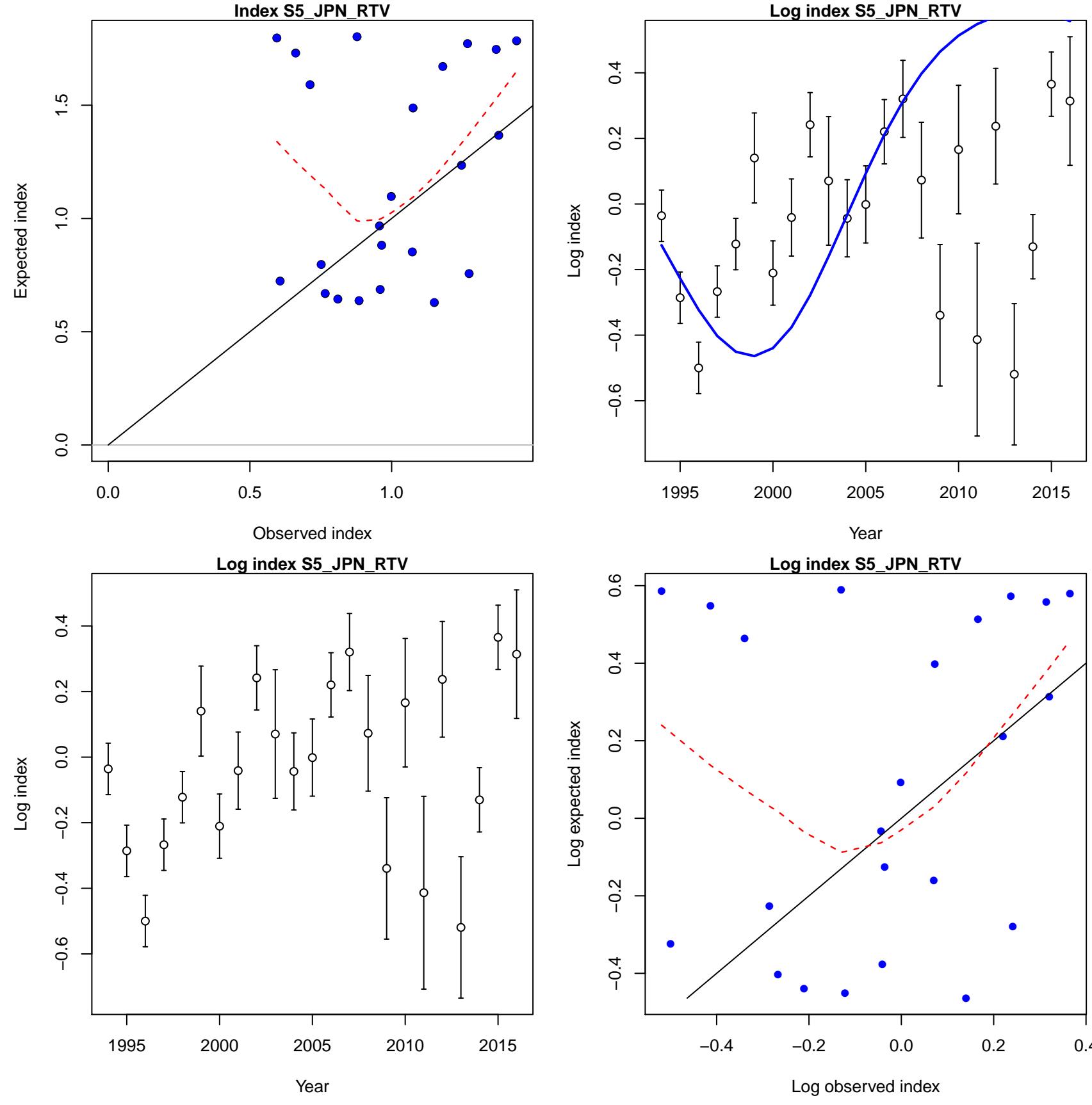


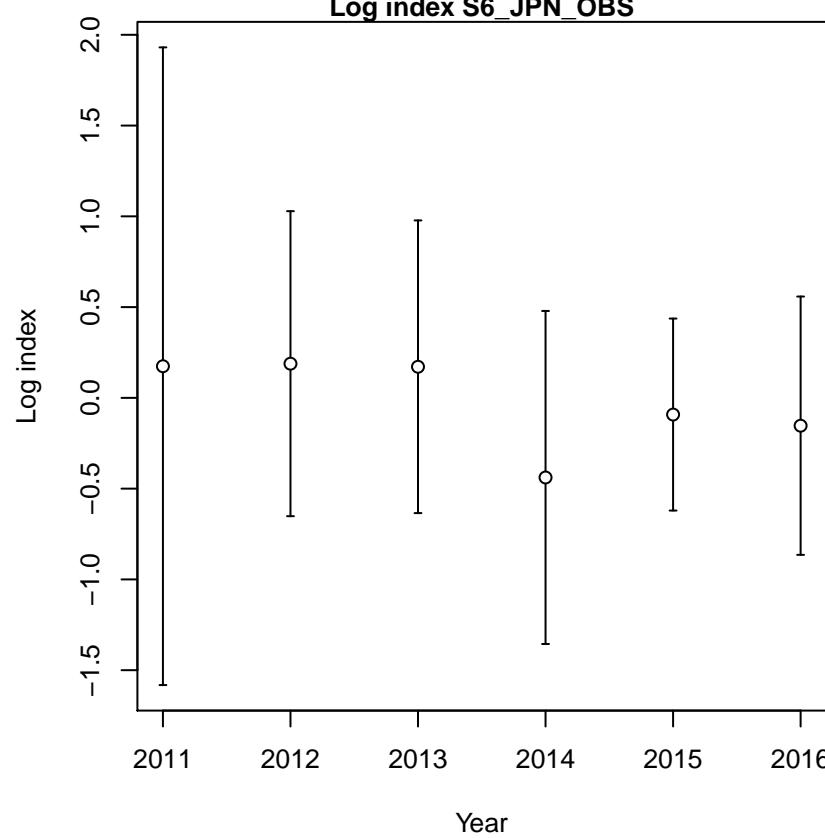
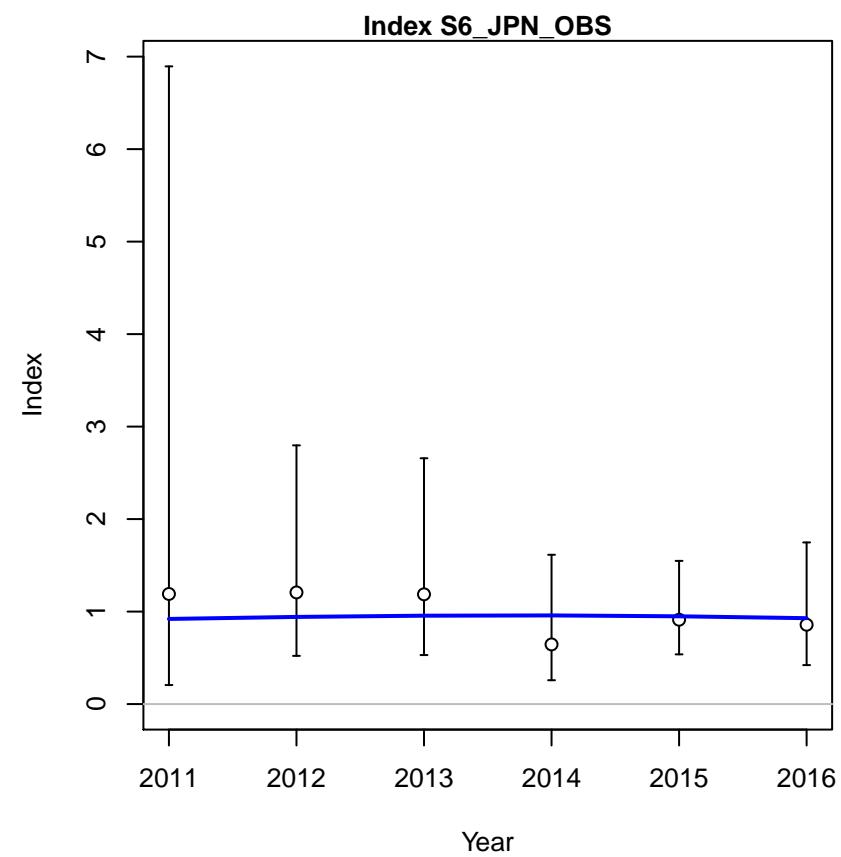
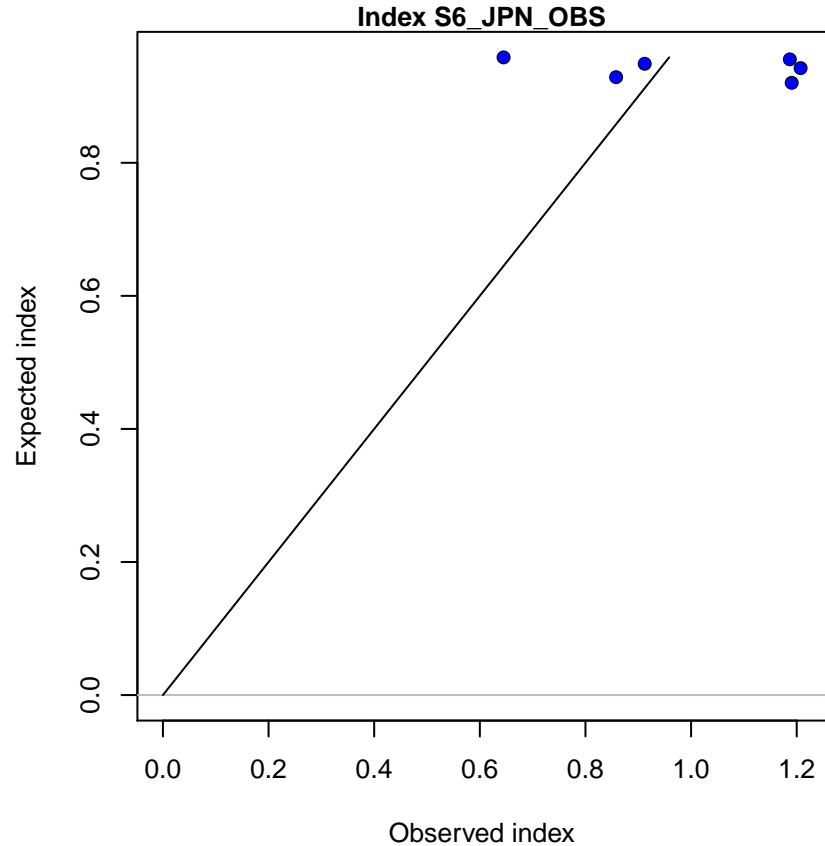
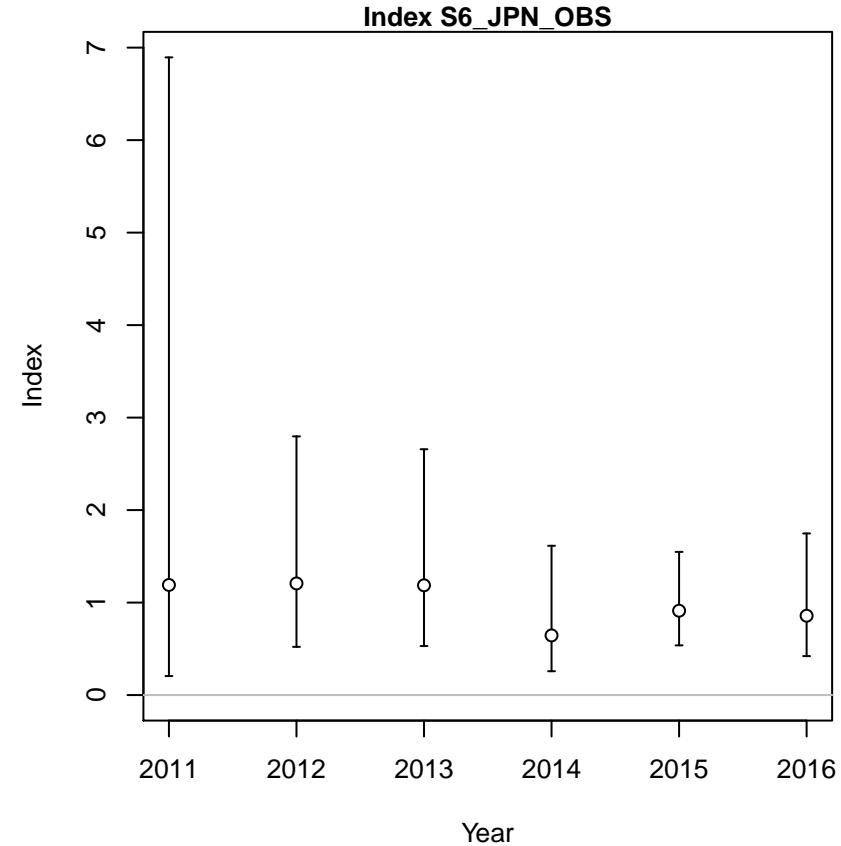


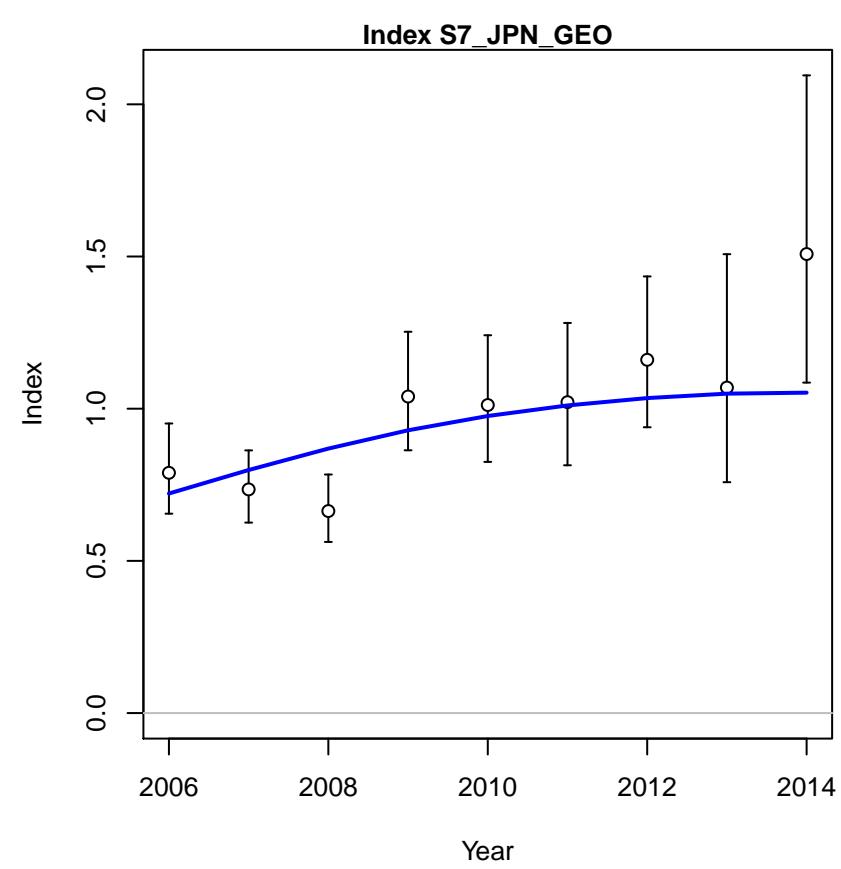
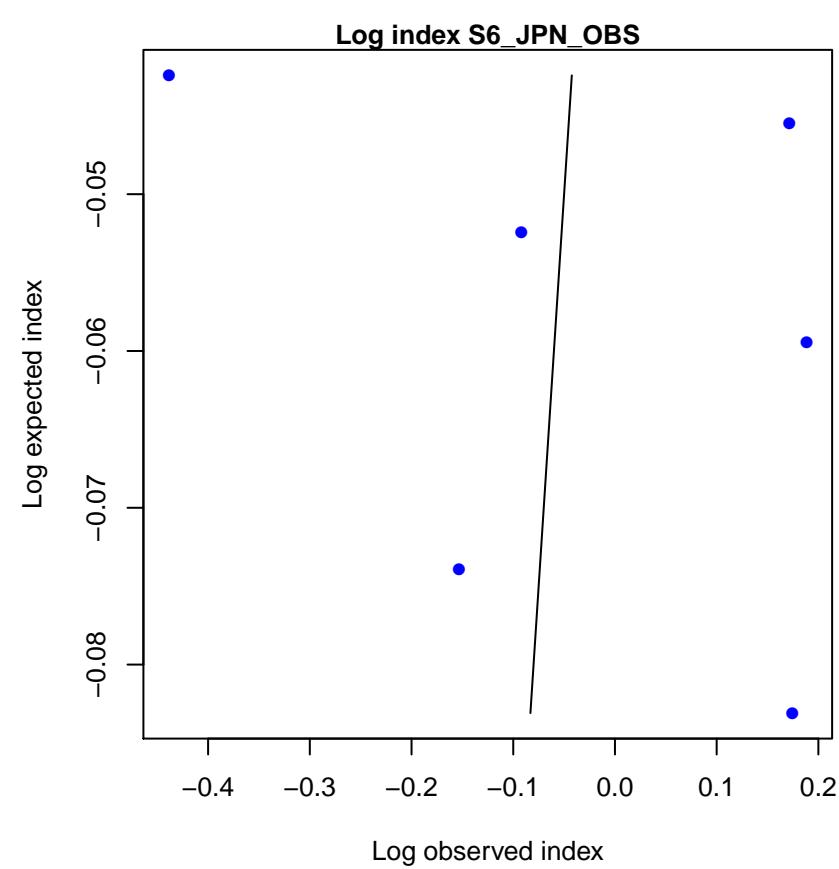
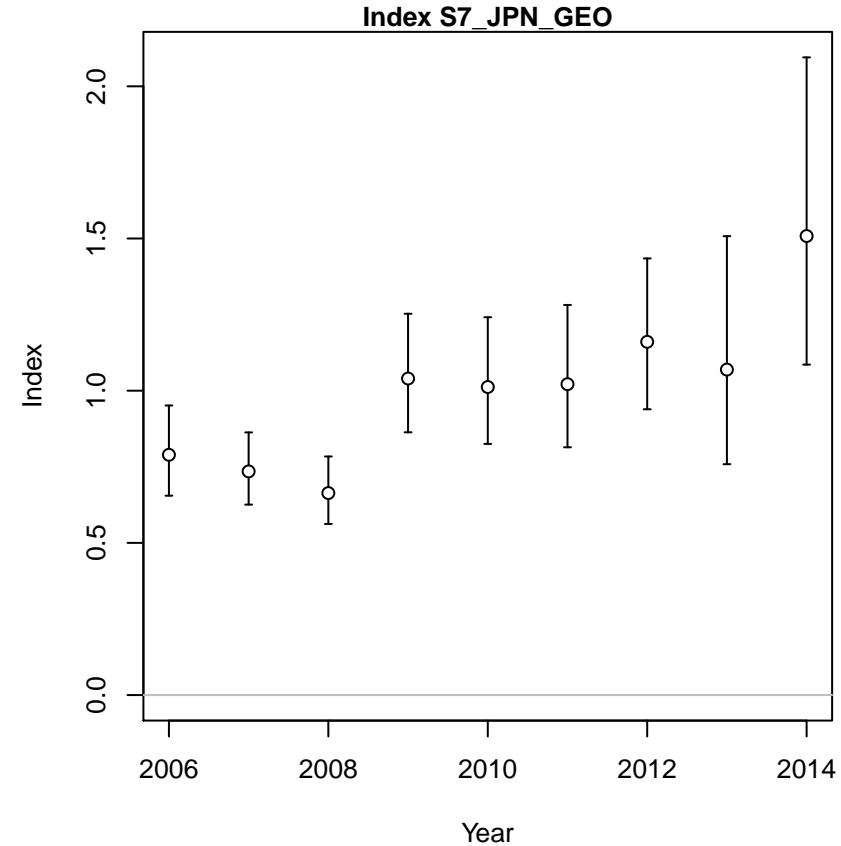
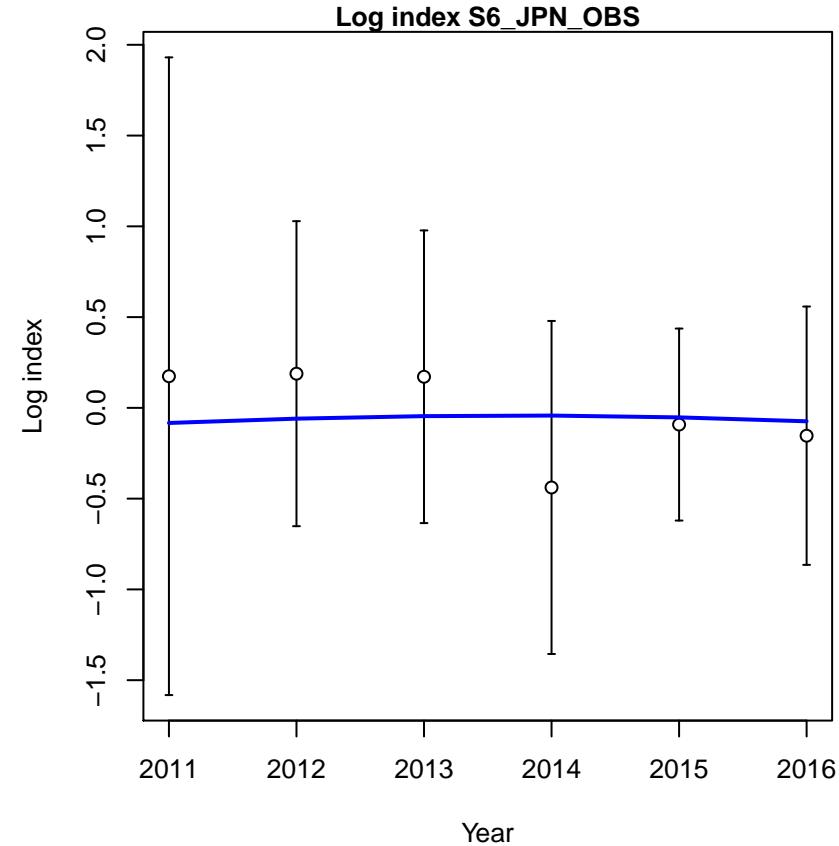


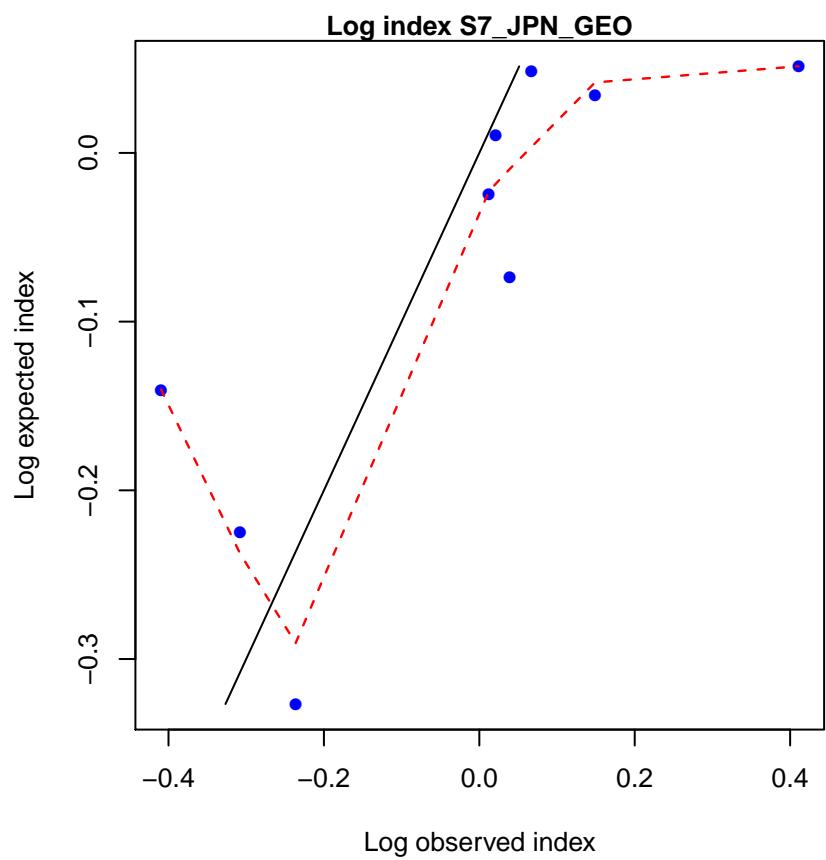
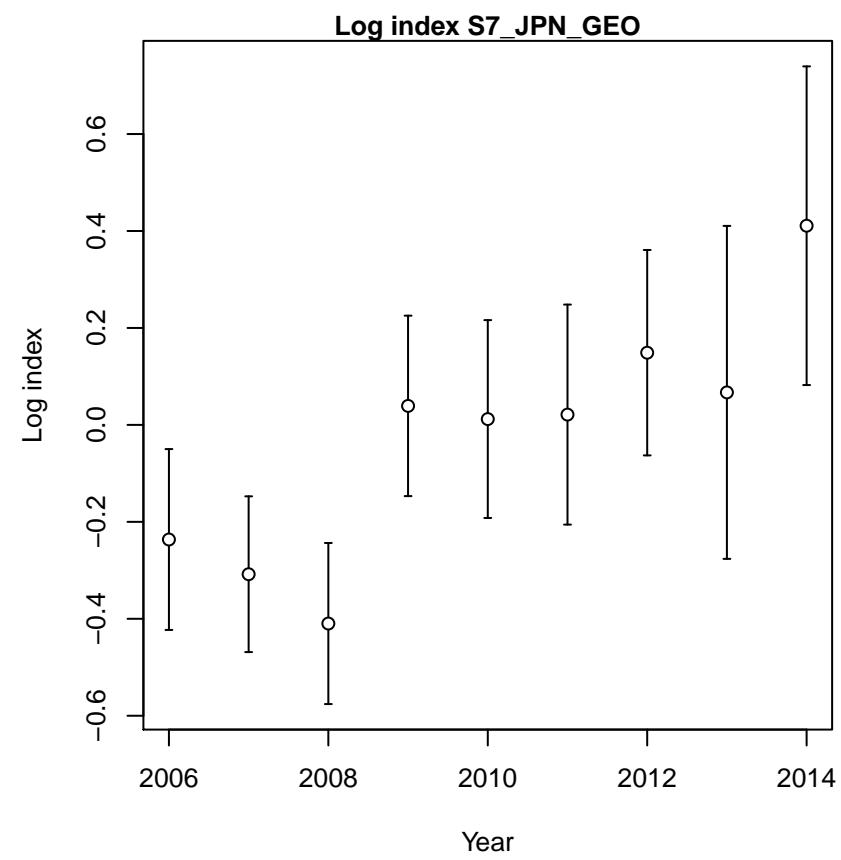
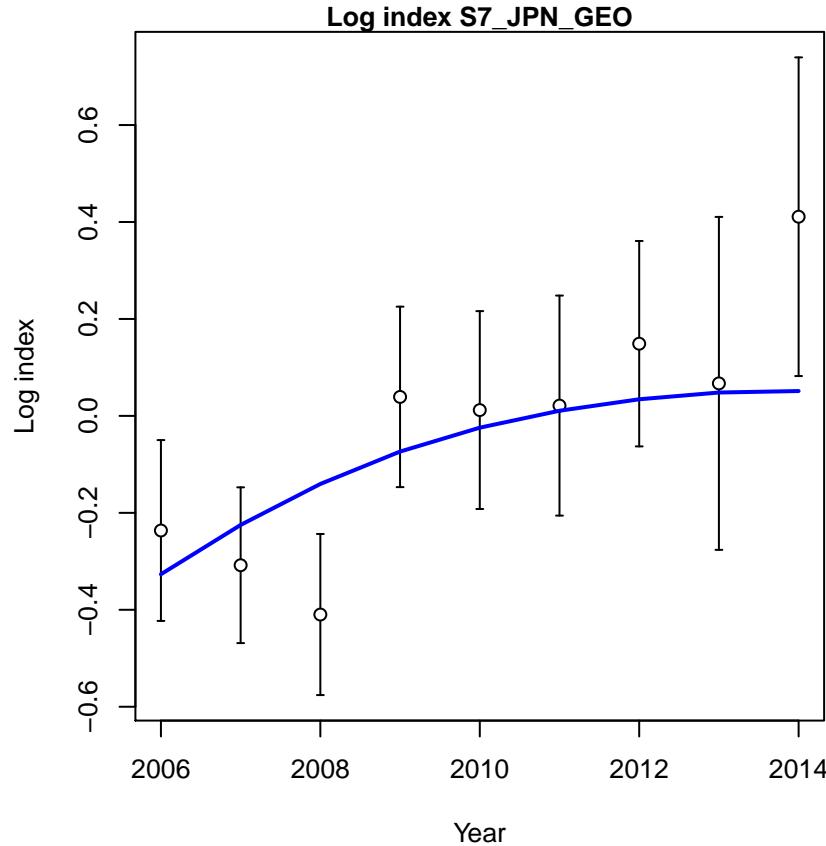
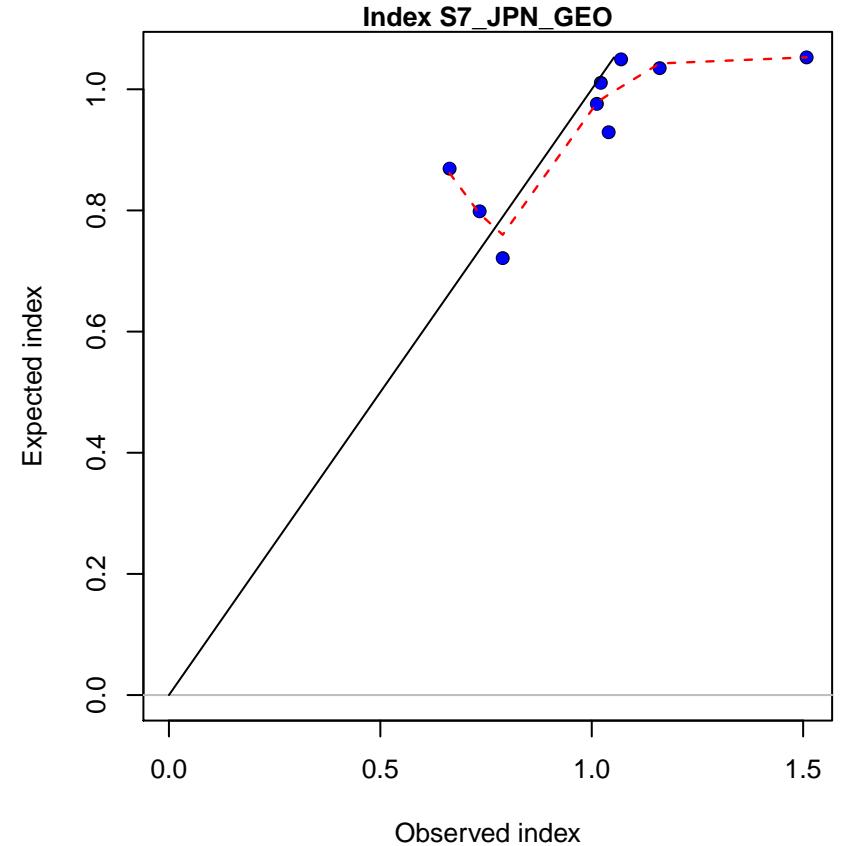


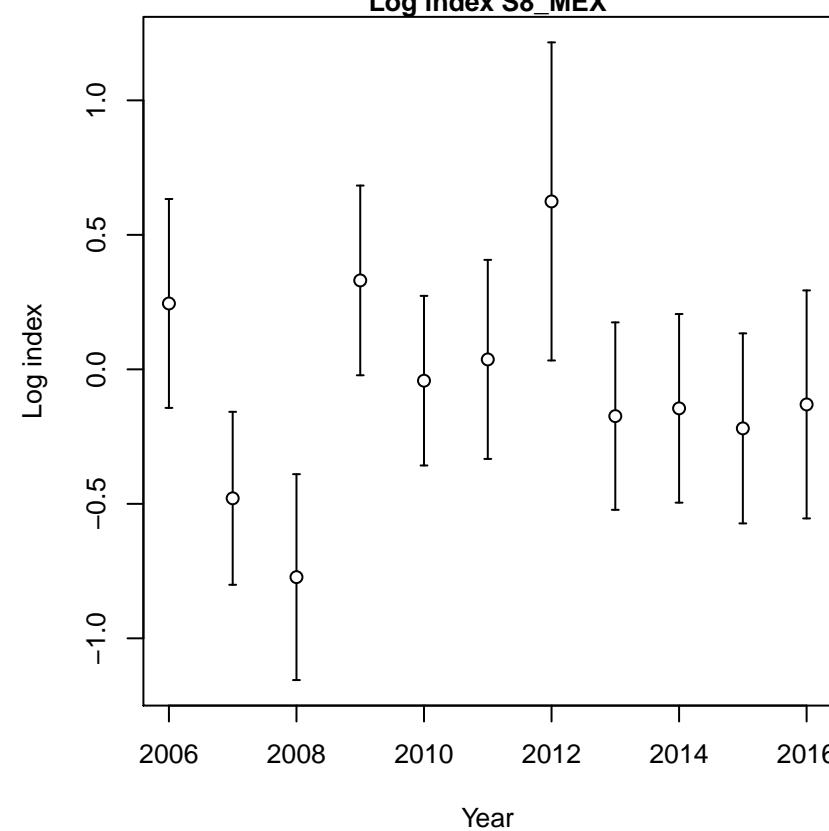
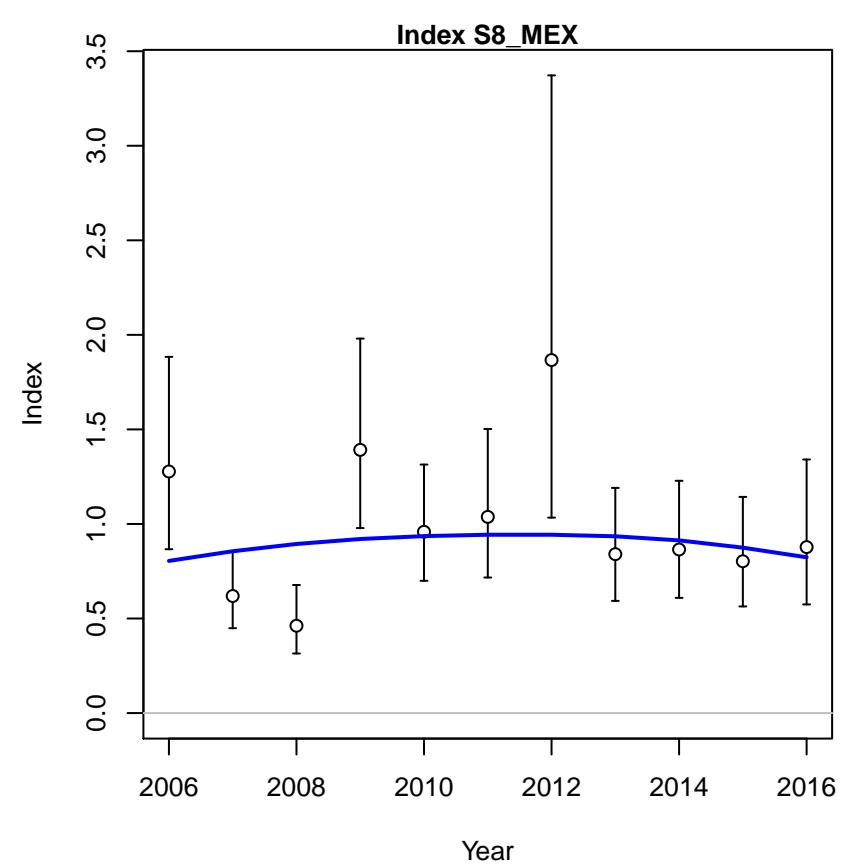
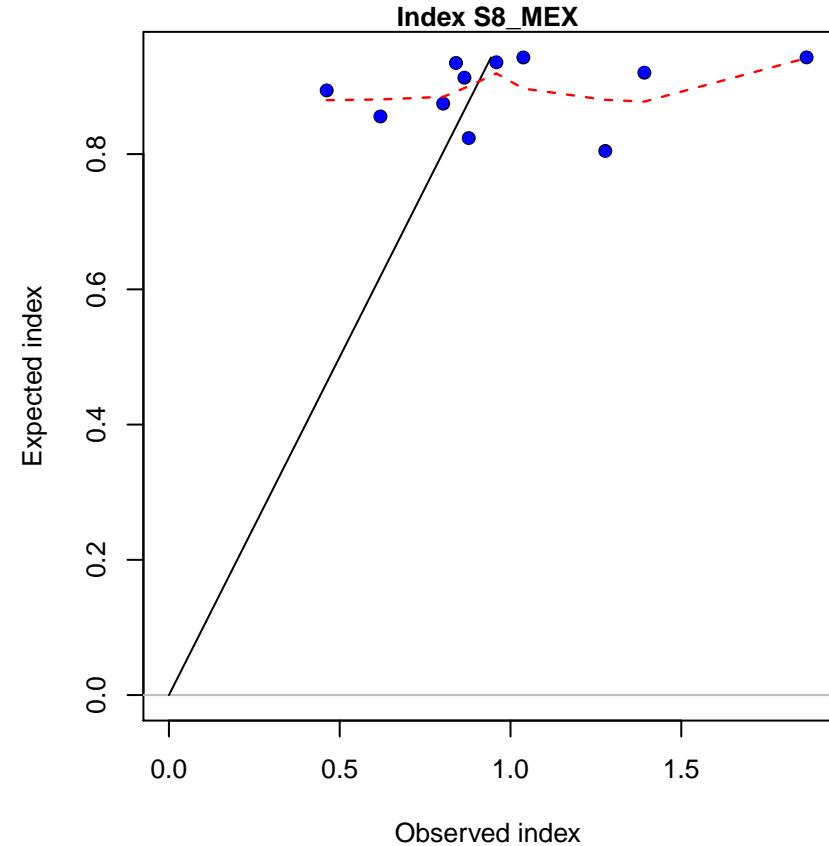
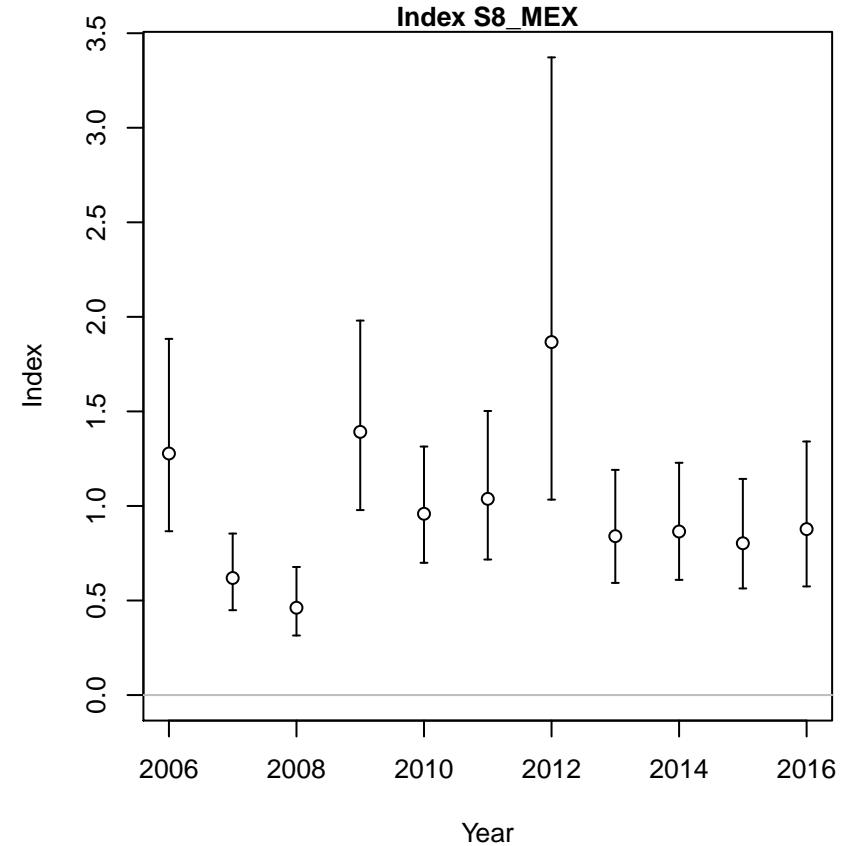
**Log index S4\_JPN\_SS****Index S5\_JPN\_RTV****Log index S4\_JPN\_SS****Index S5\_JPN\_RTV**

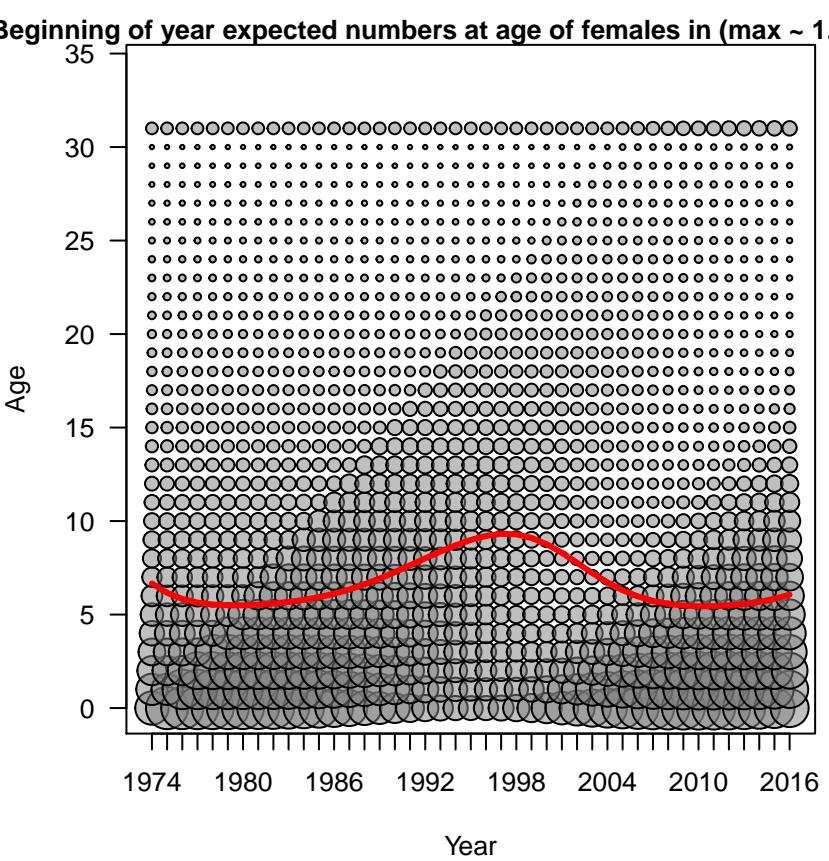
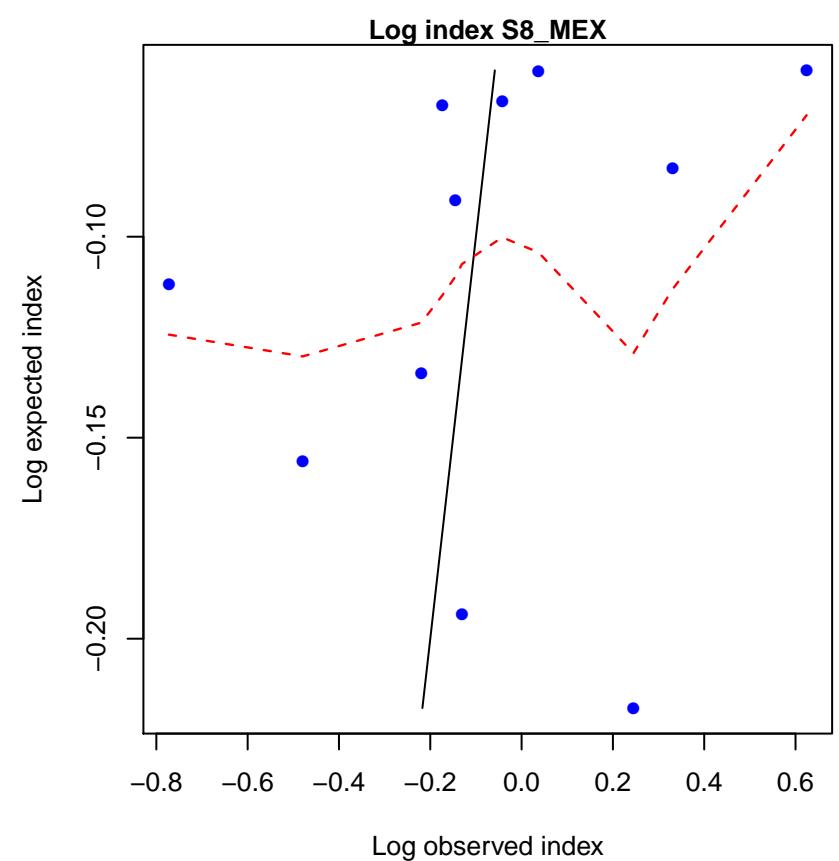
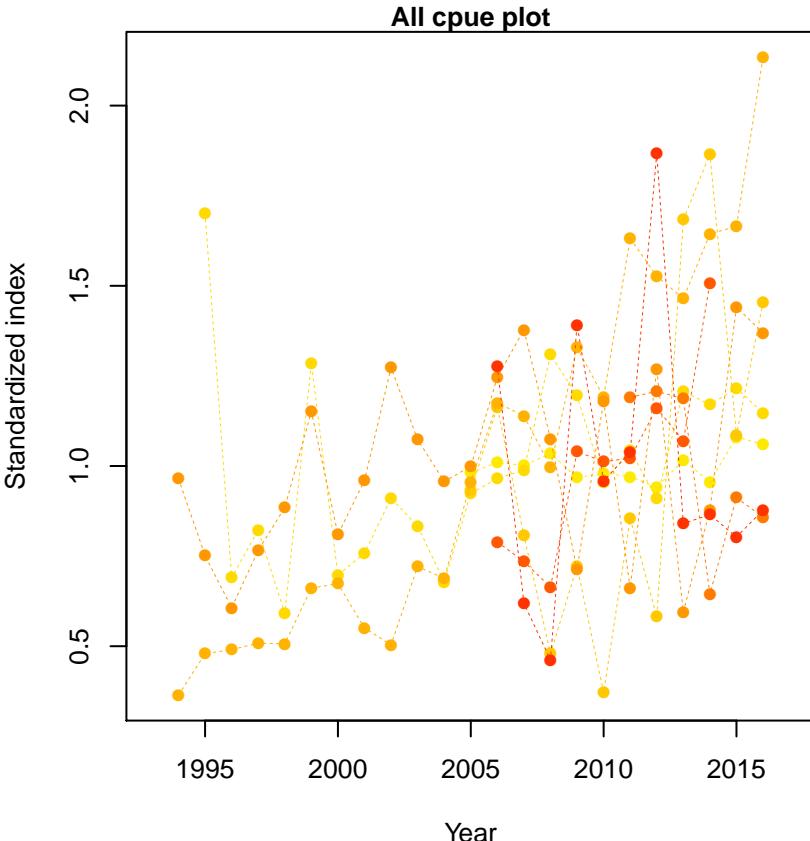
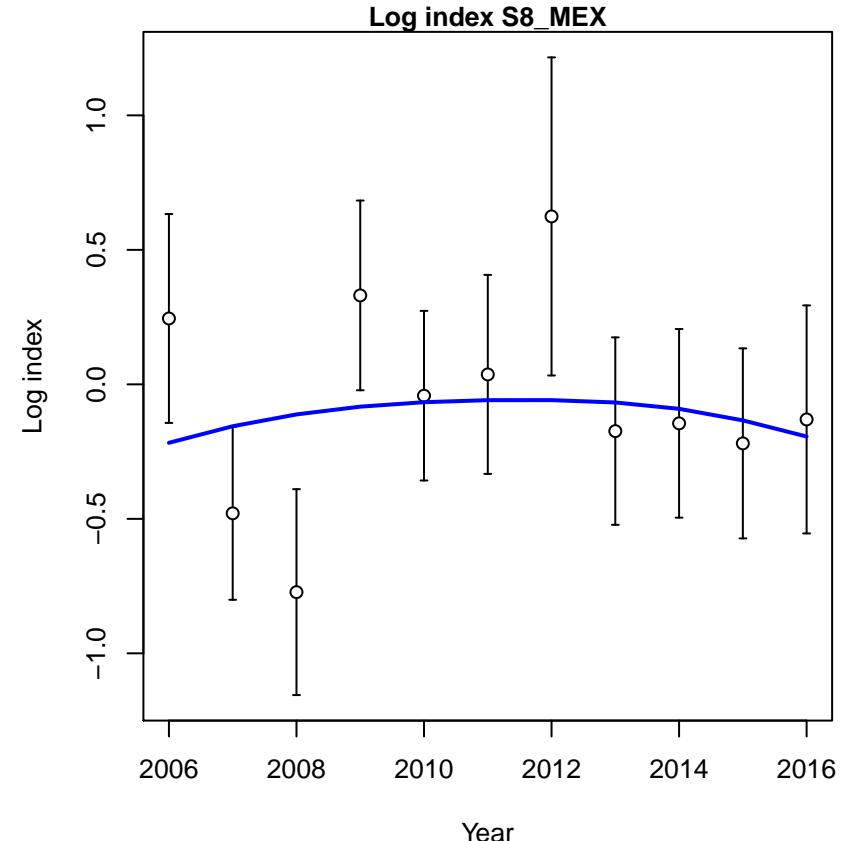


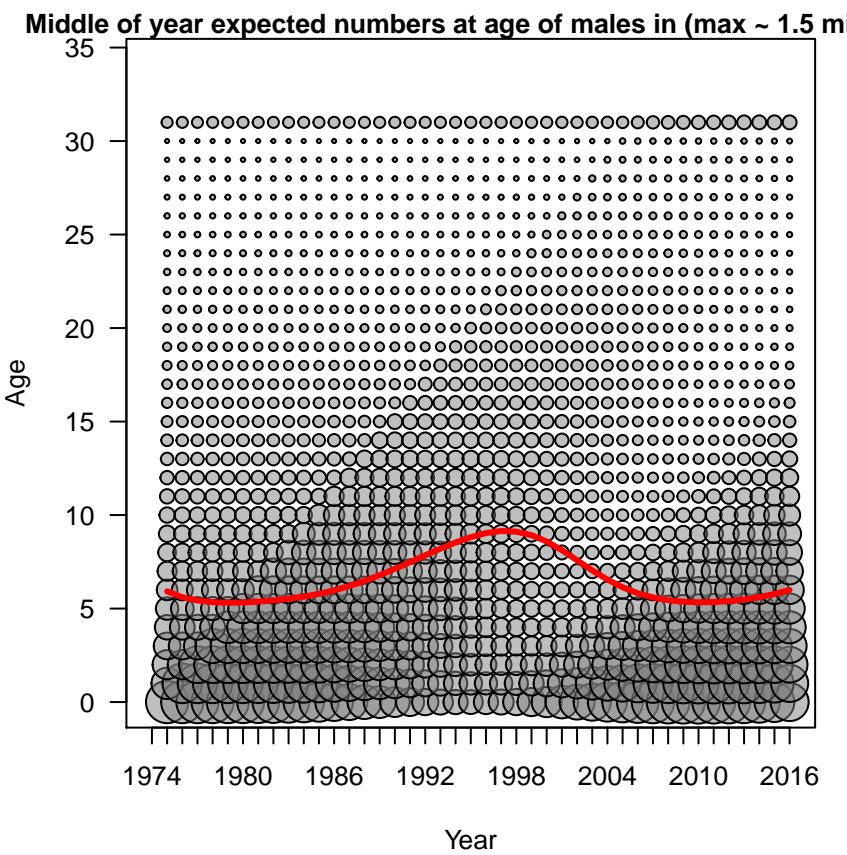
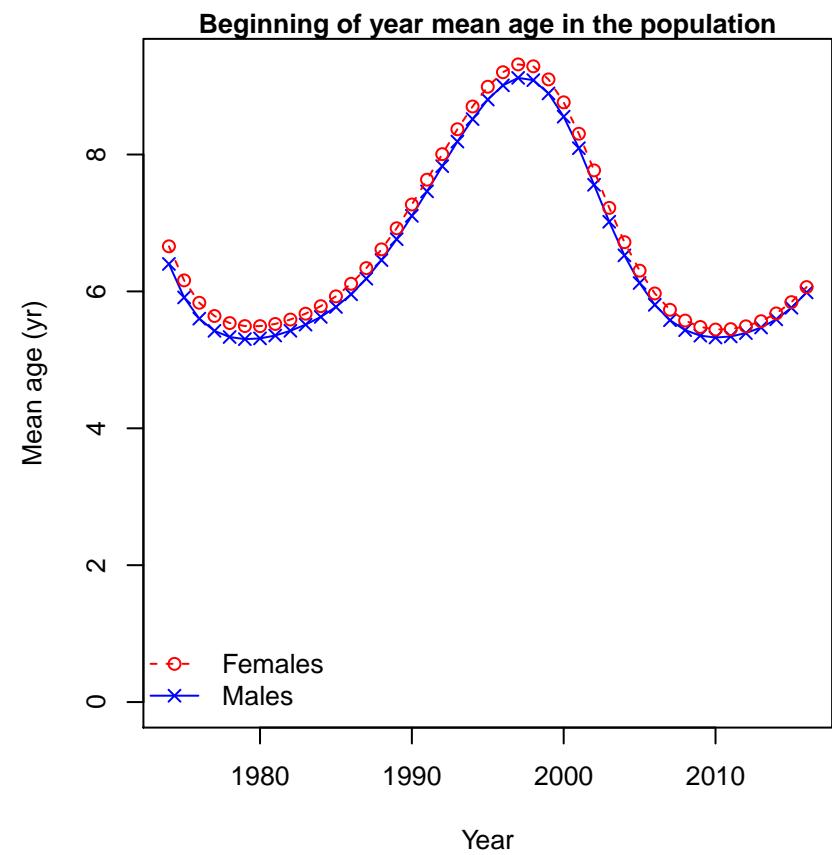
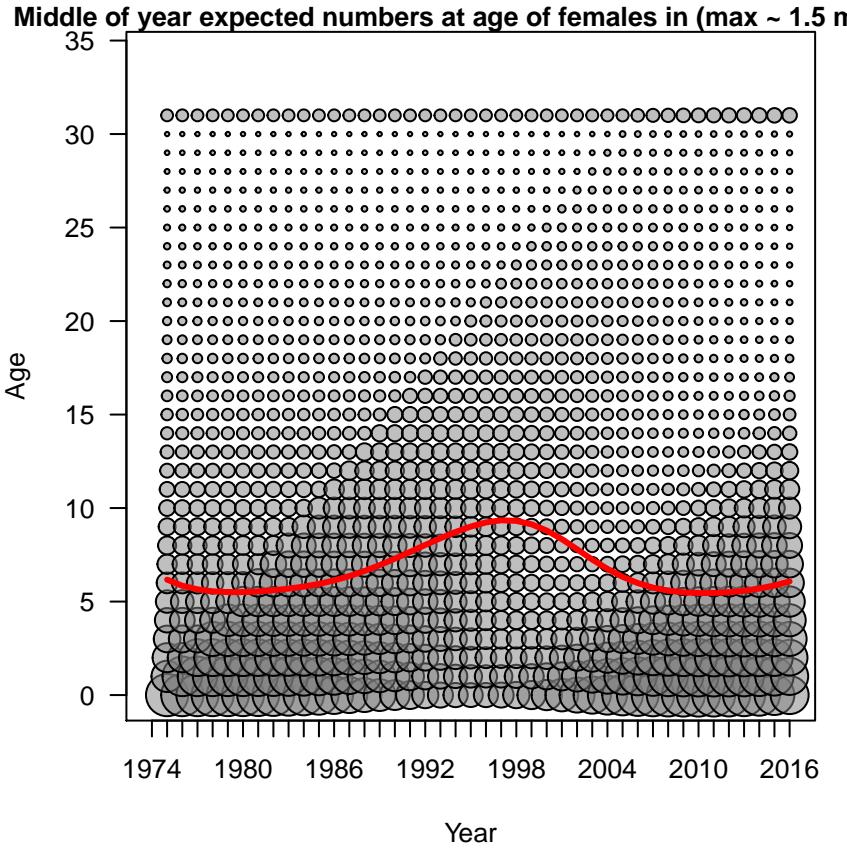
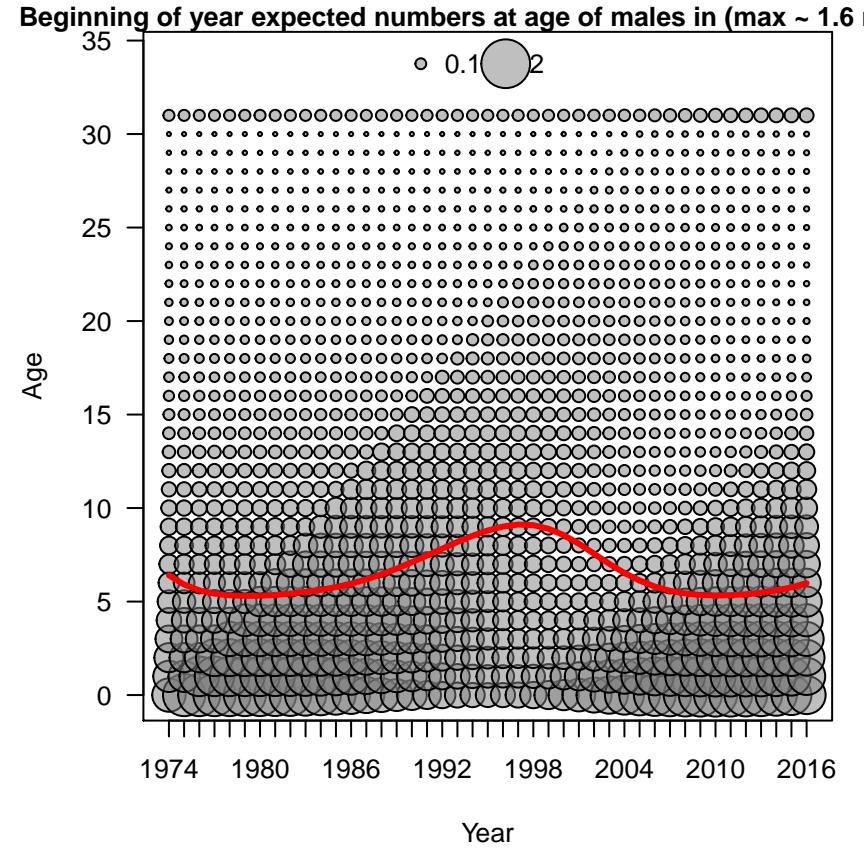


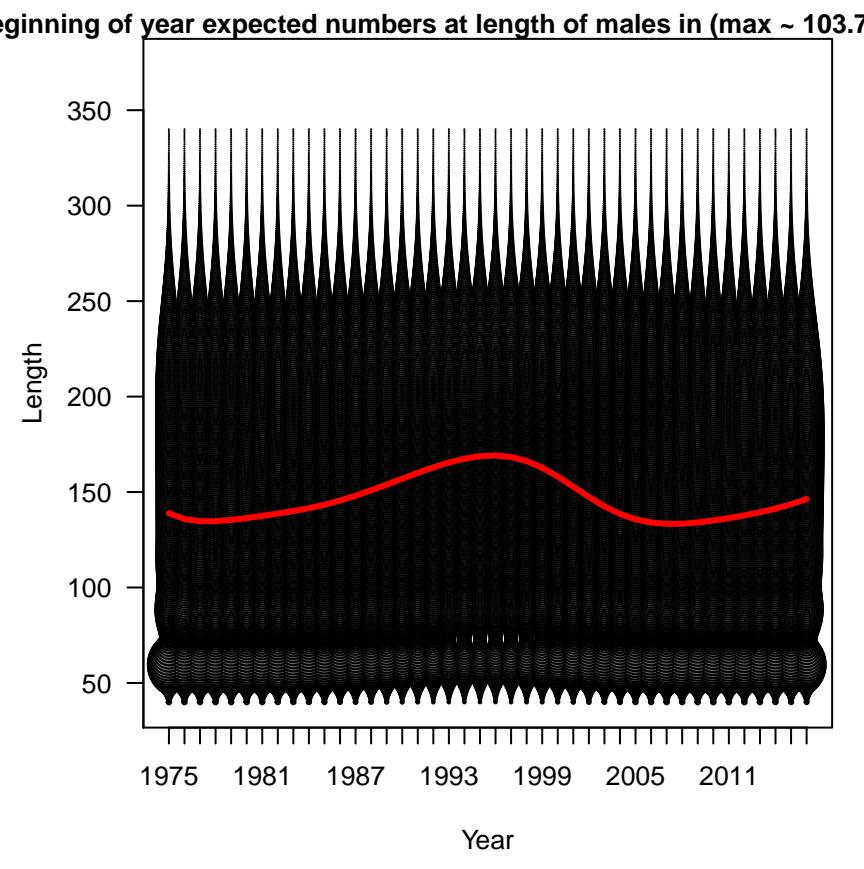
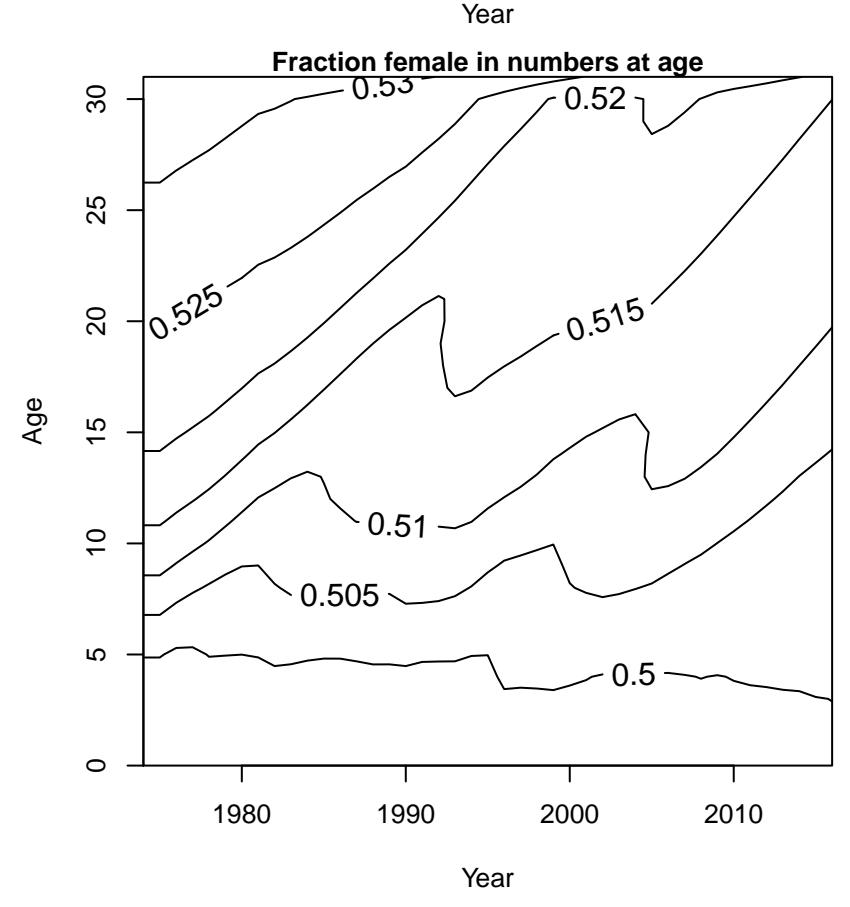
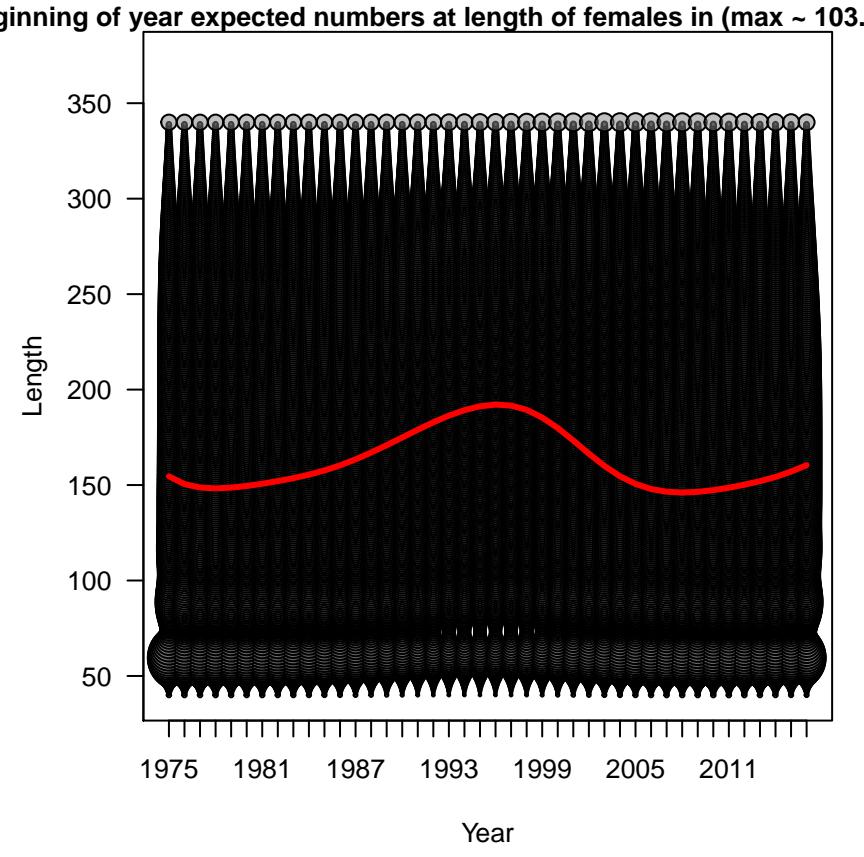
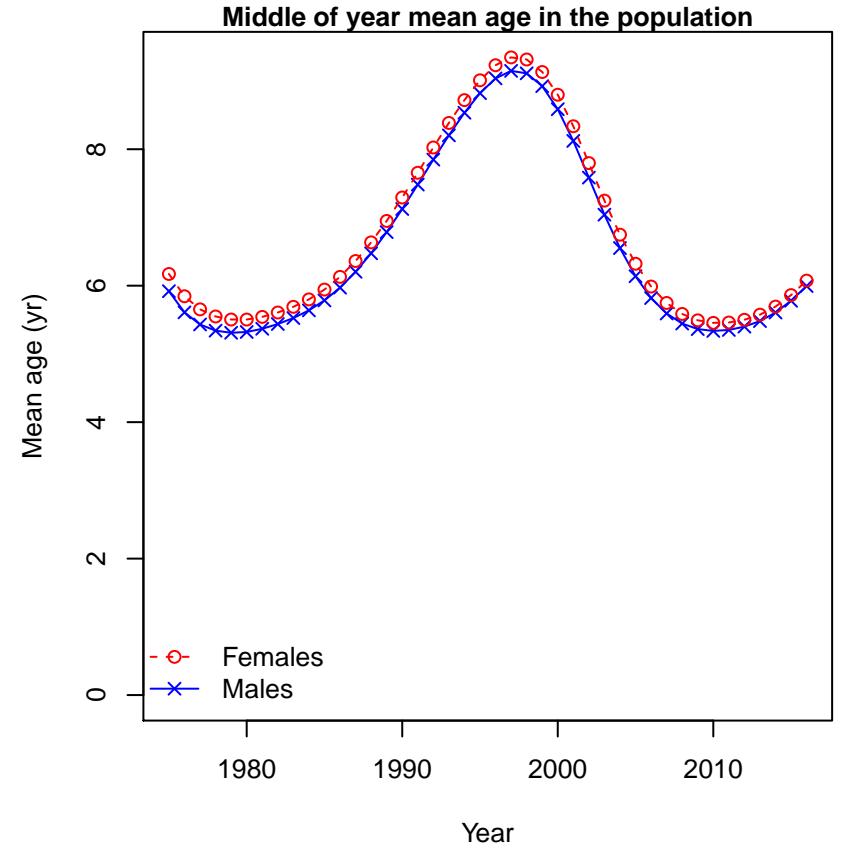


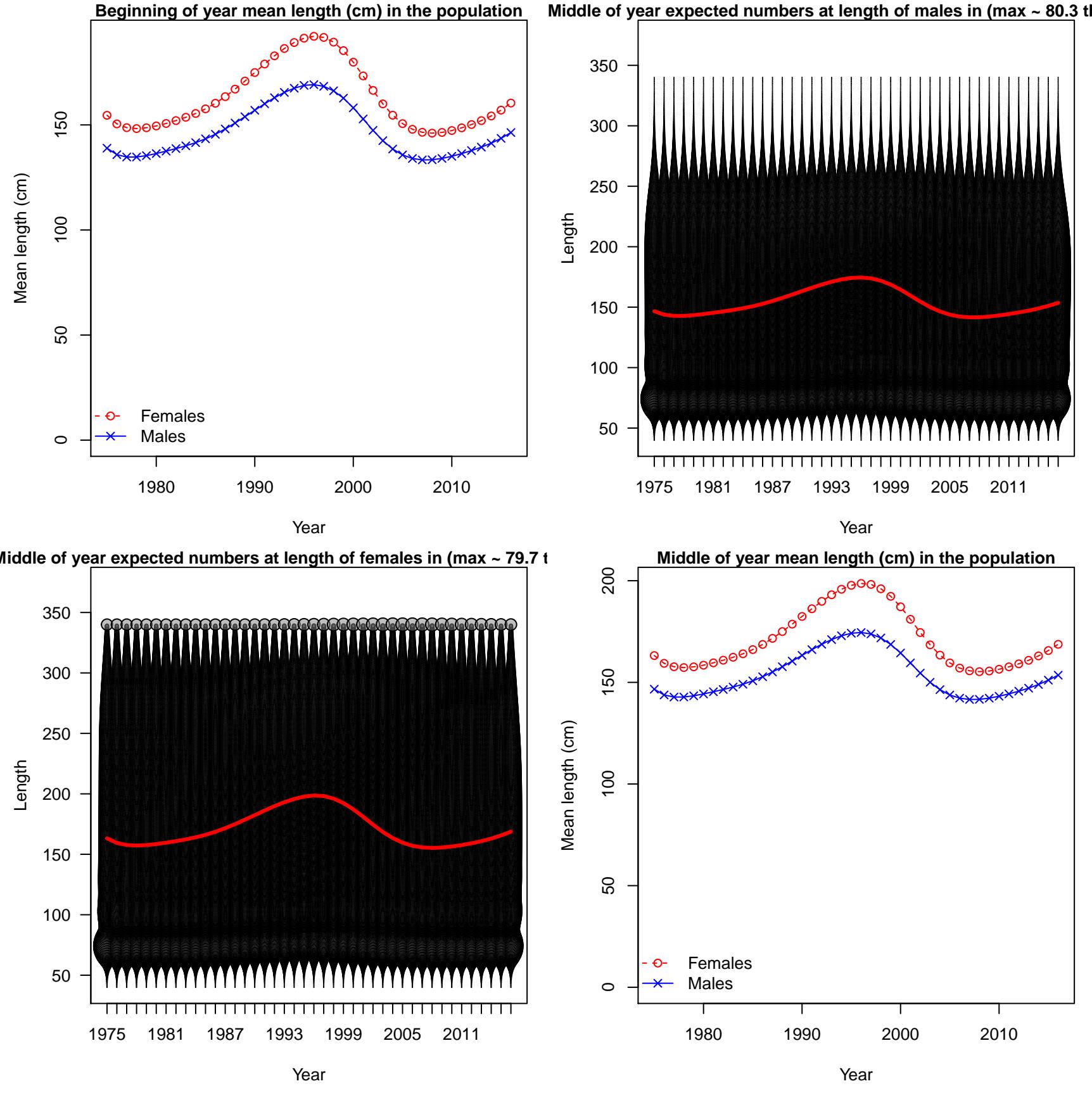


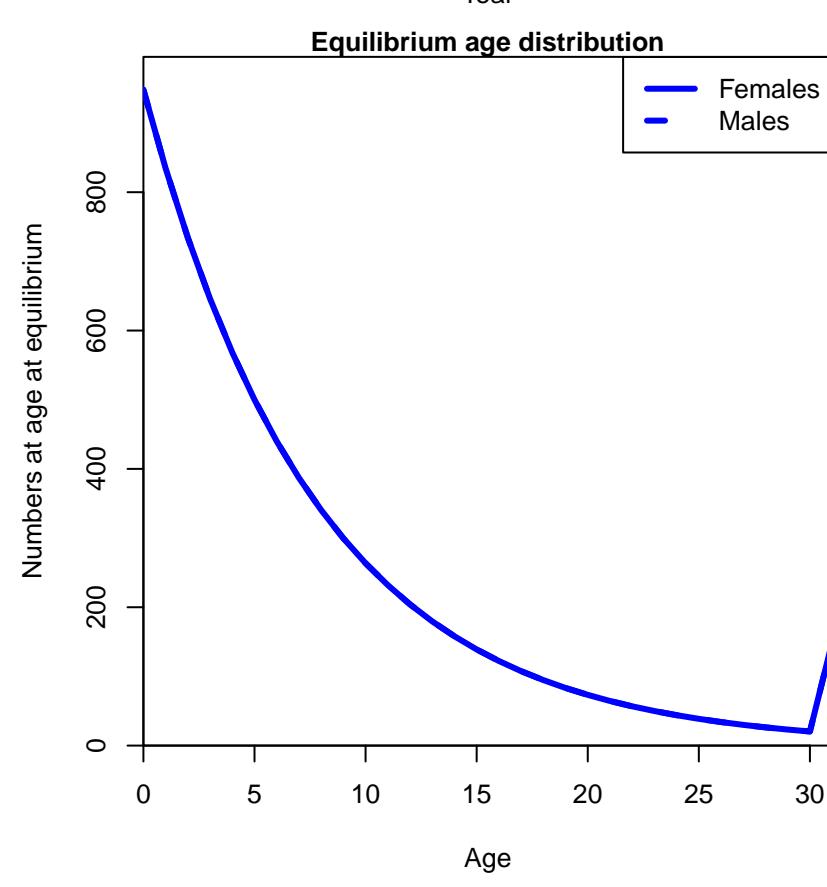
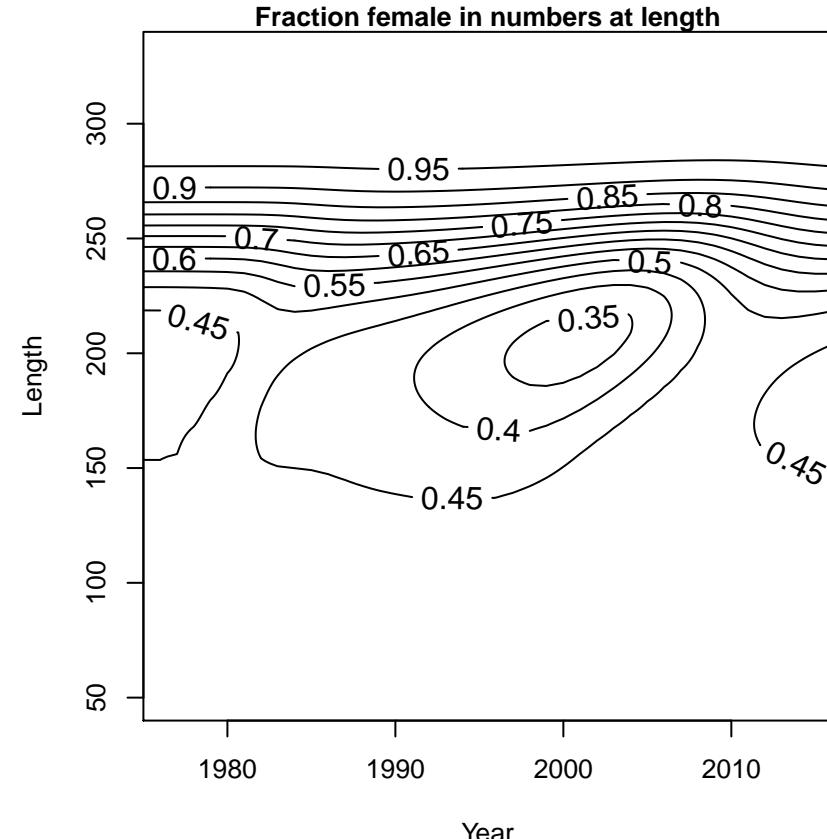


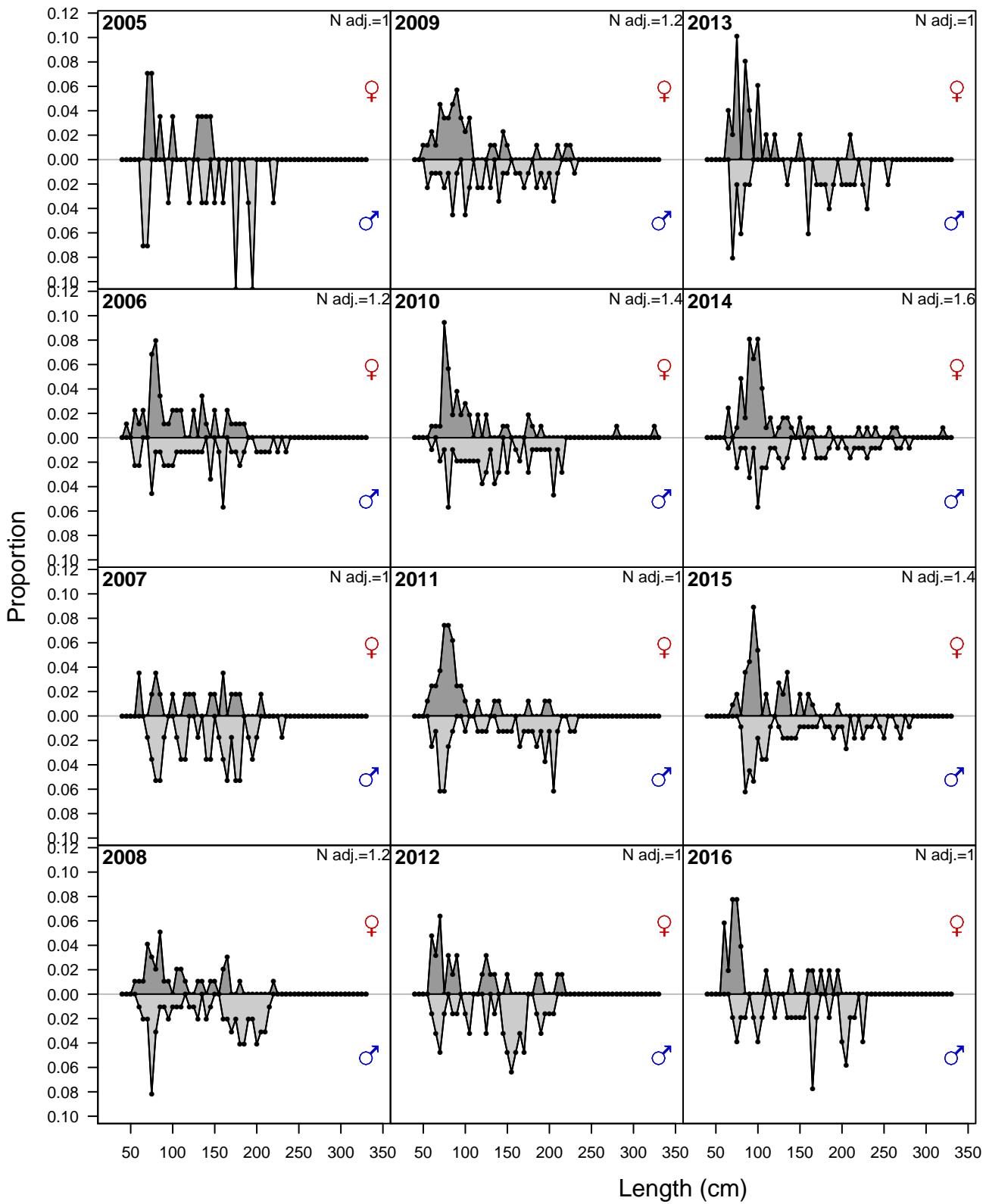


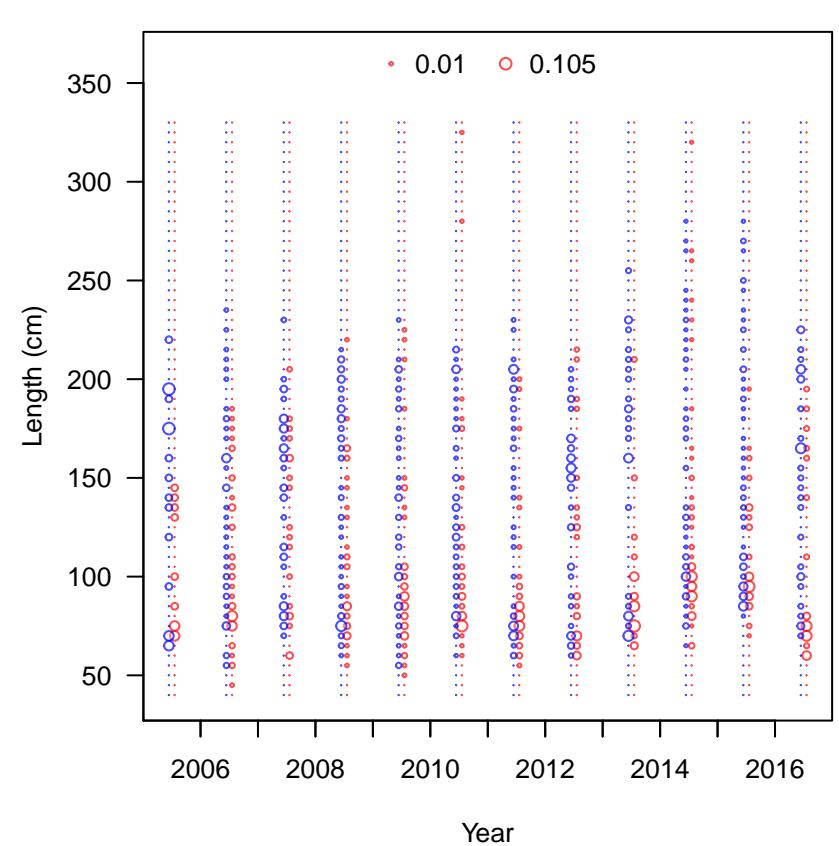




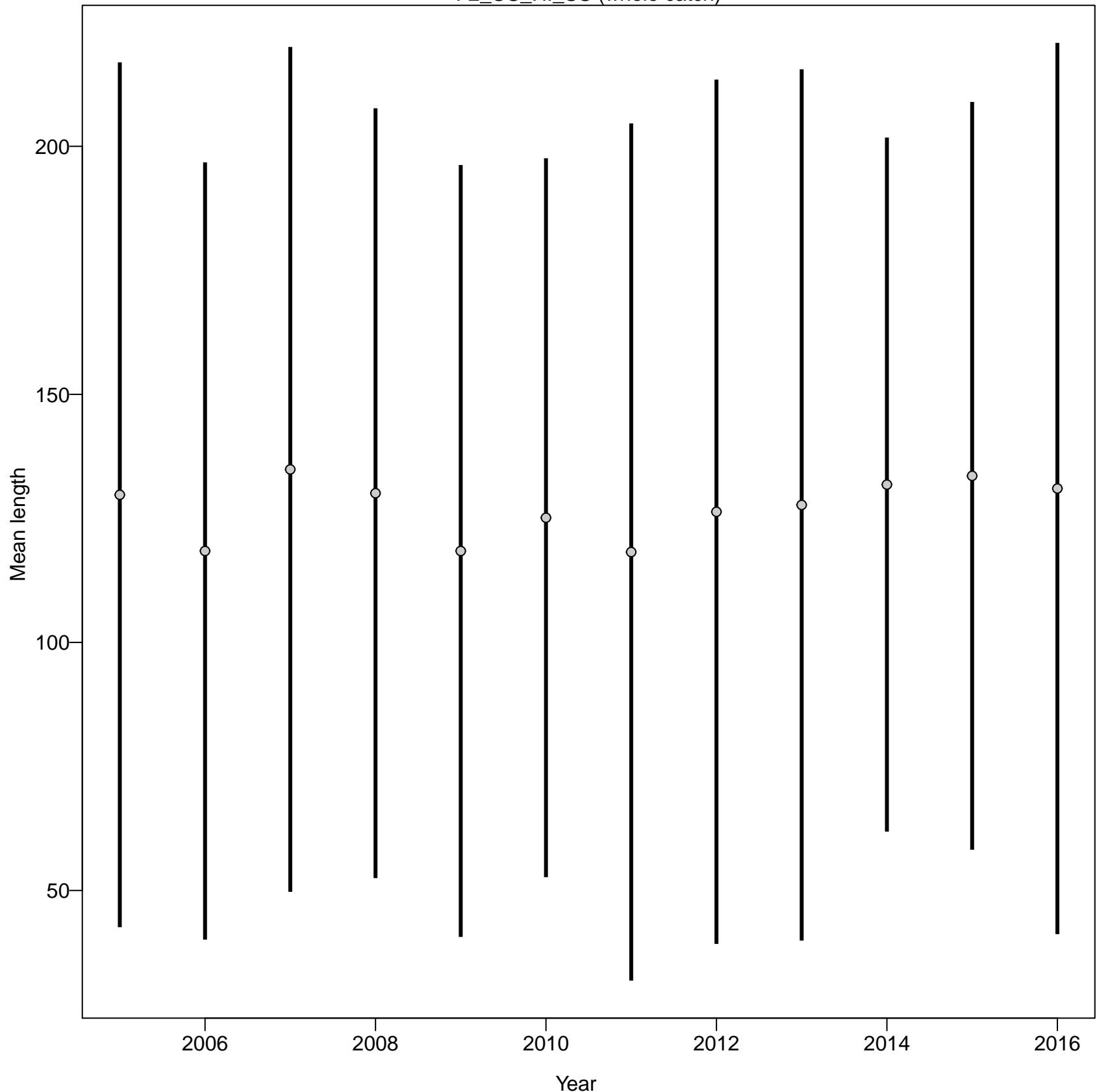


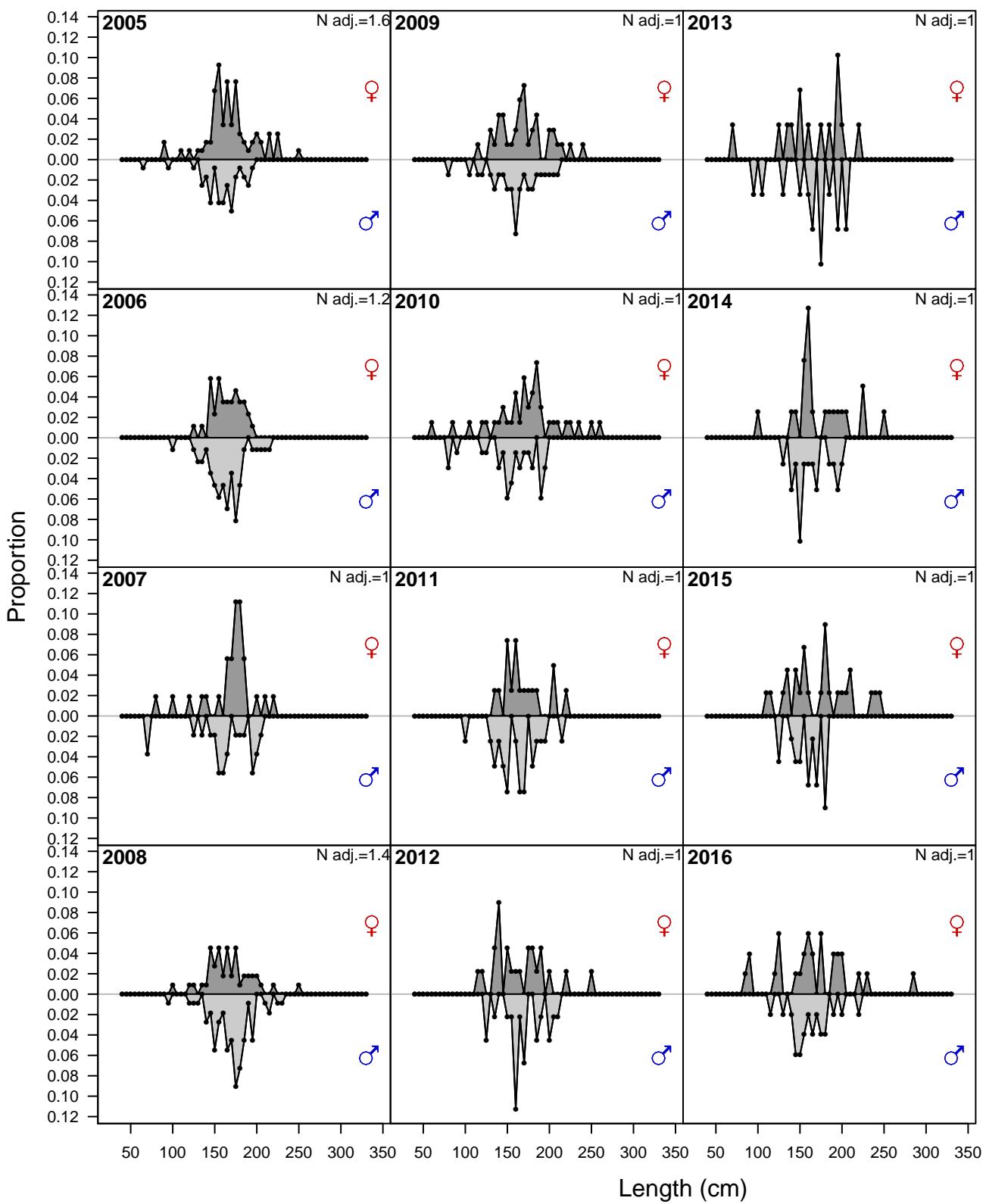


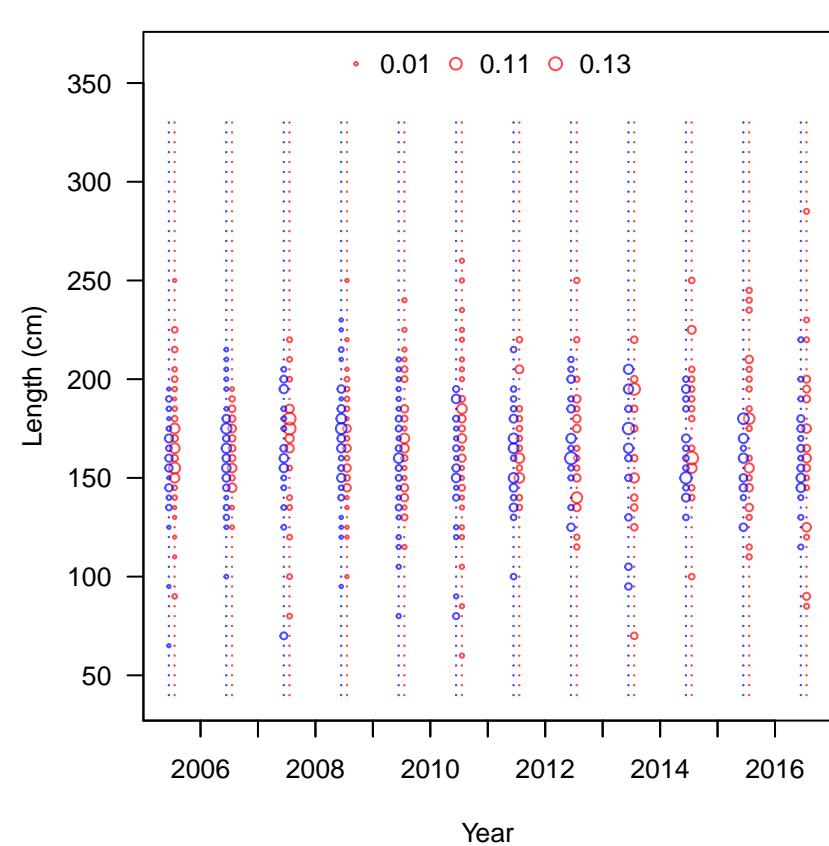




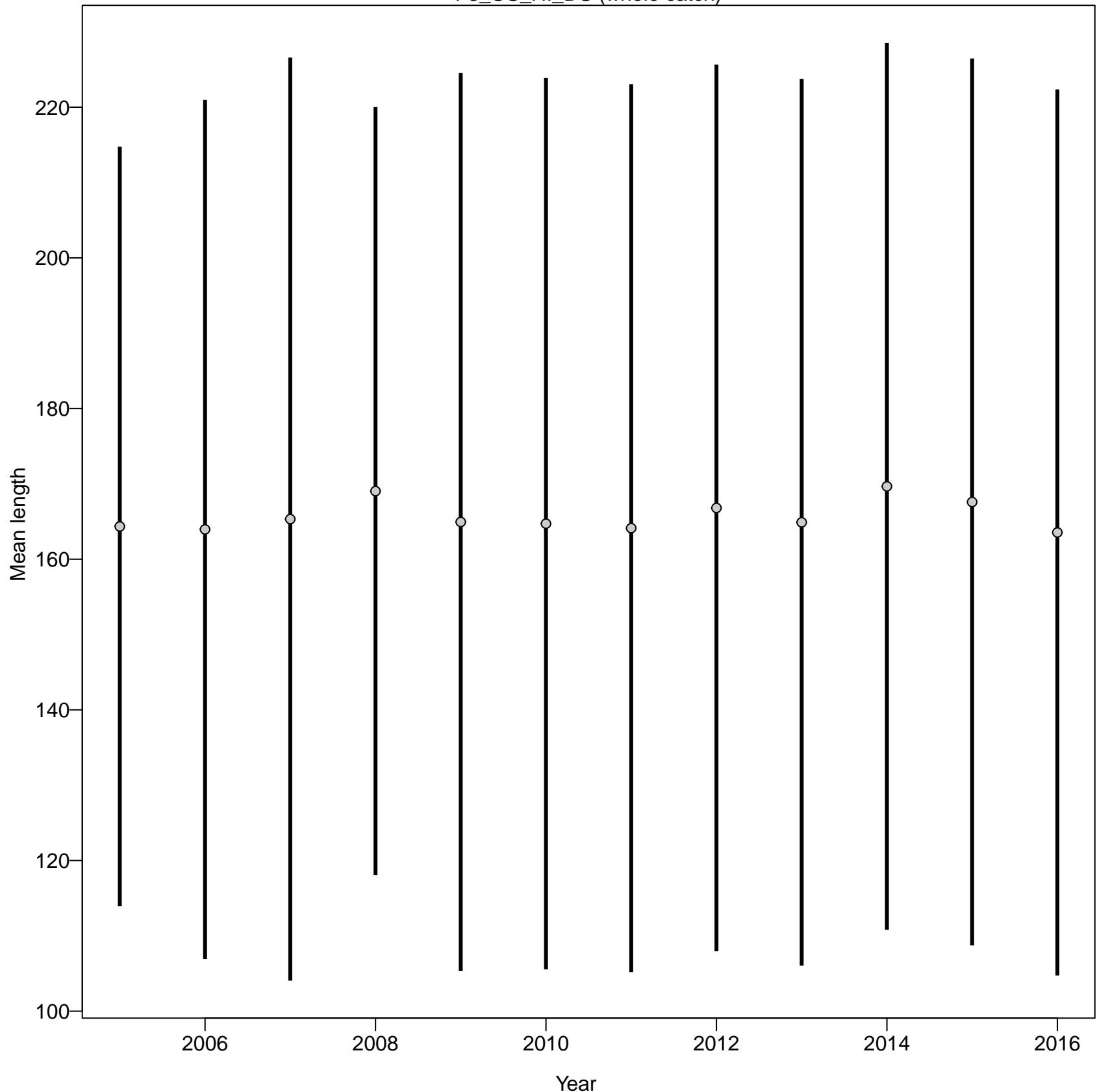
F2\_US\_HI\_SS (whole catch)

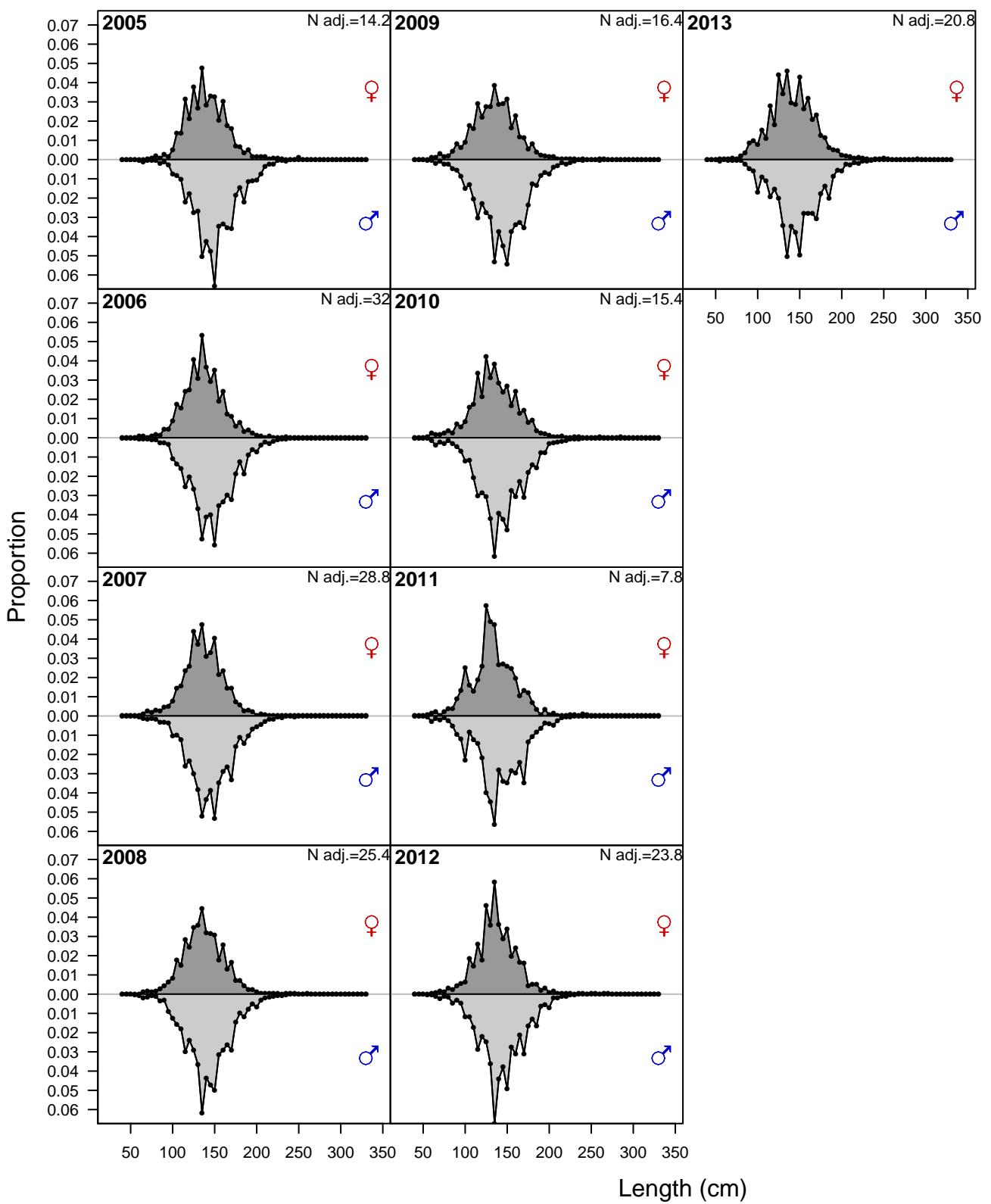


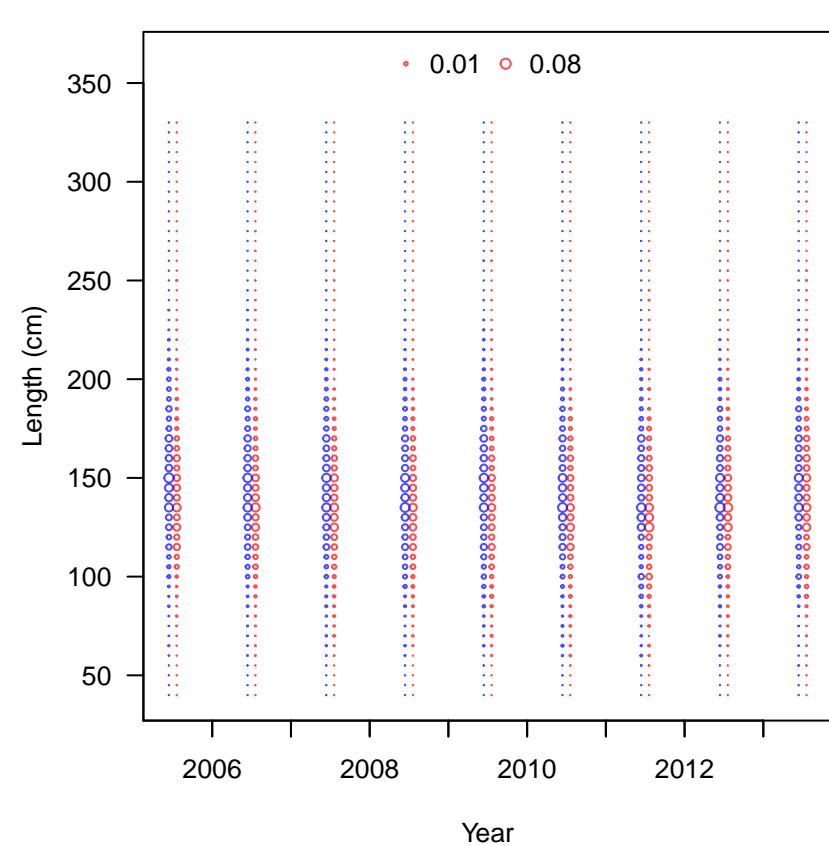




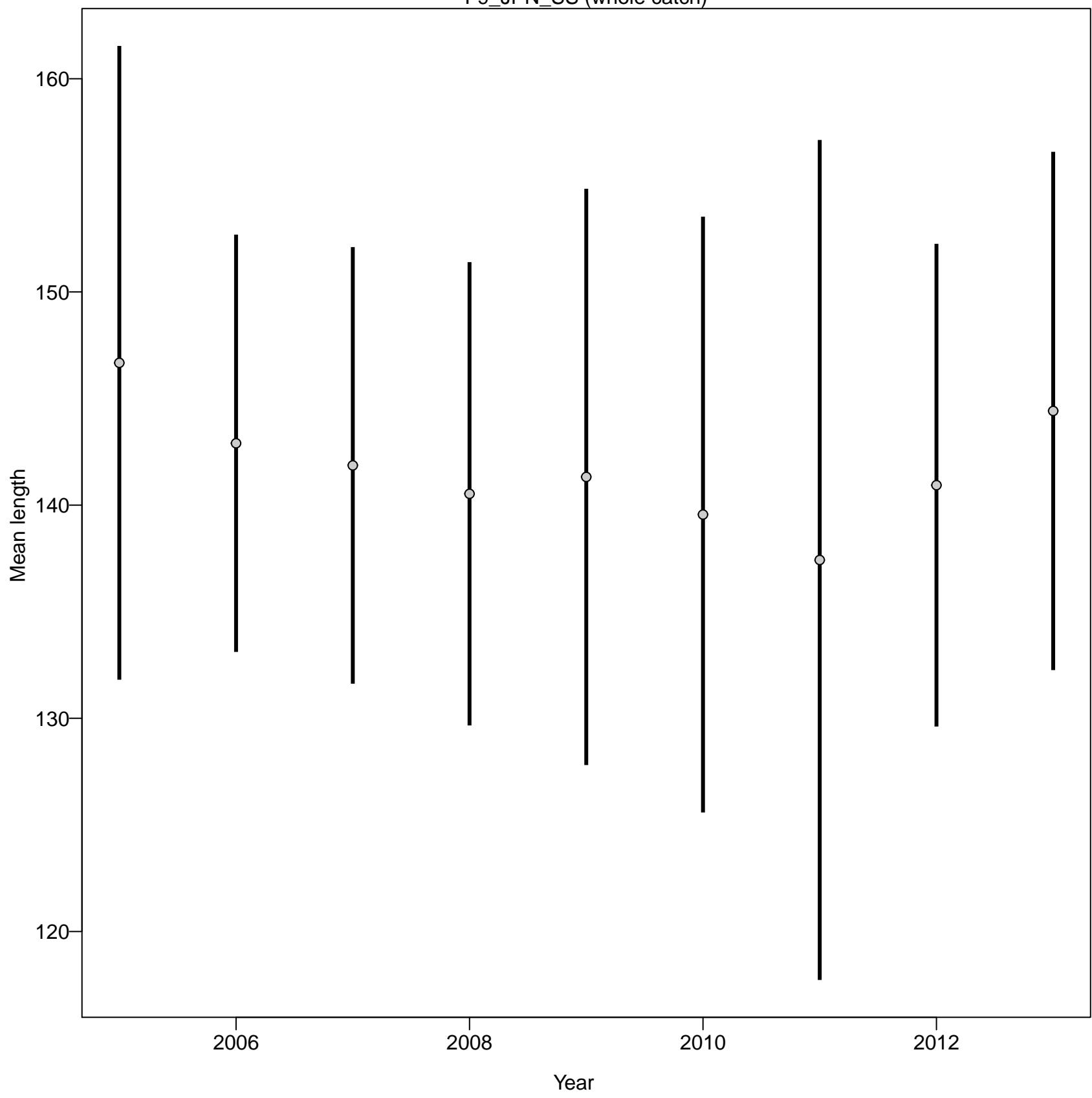
F3\_US\_HI\_DS (whole catch)

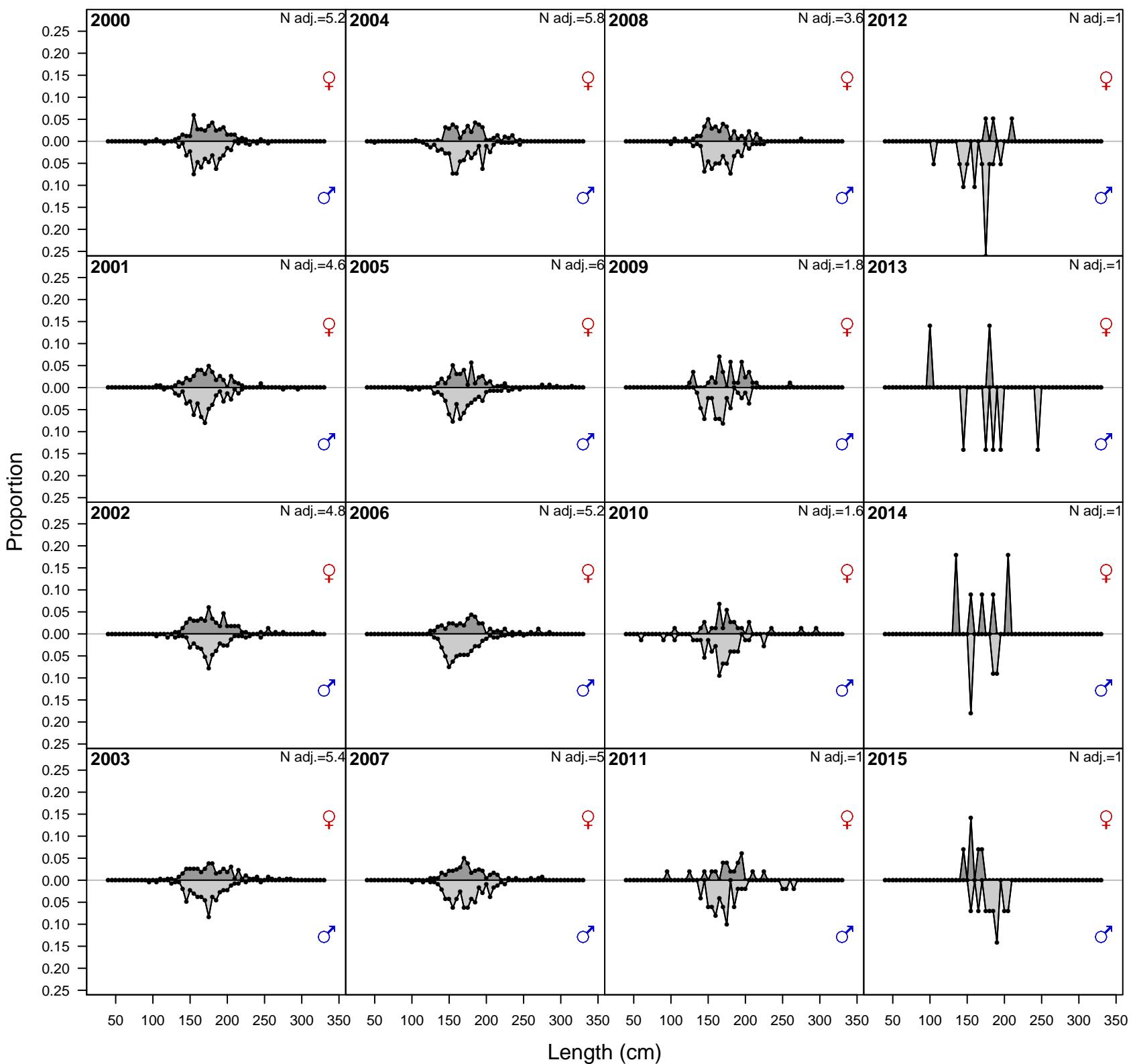




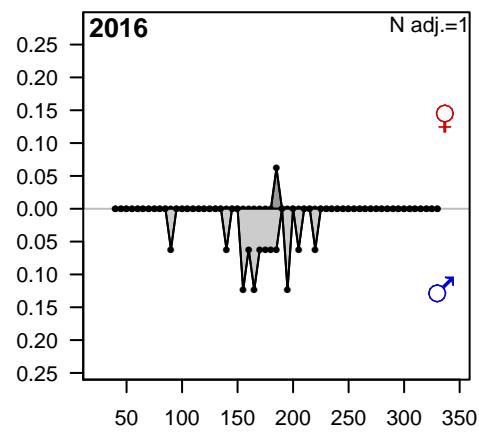


### F9\_JPN\_SS (whole catch)

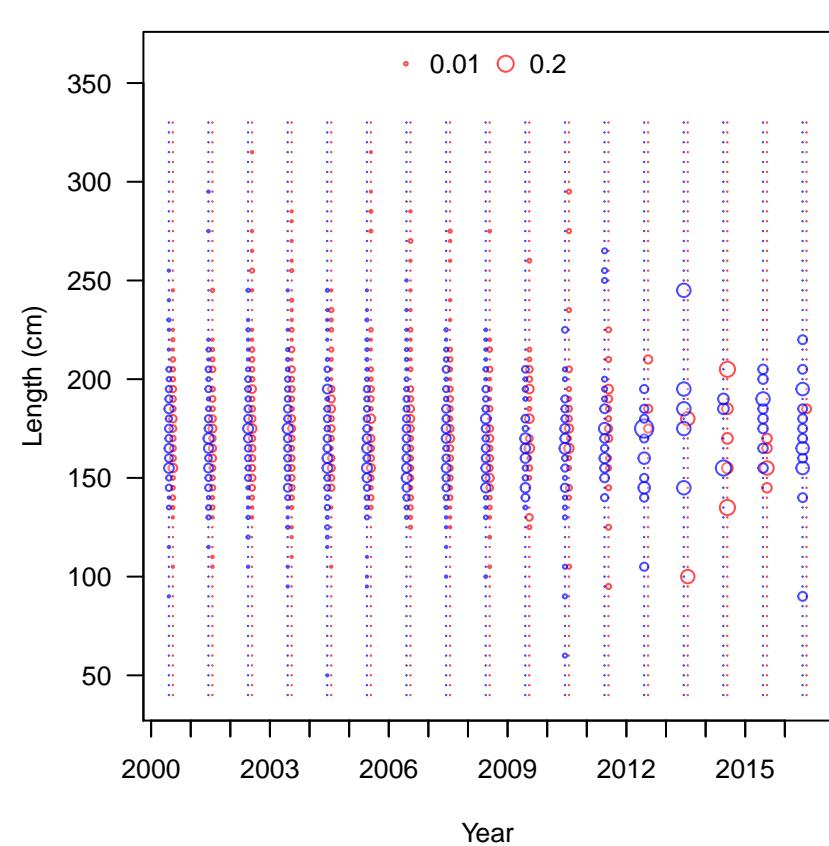




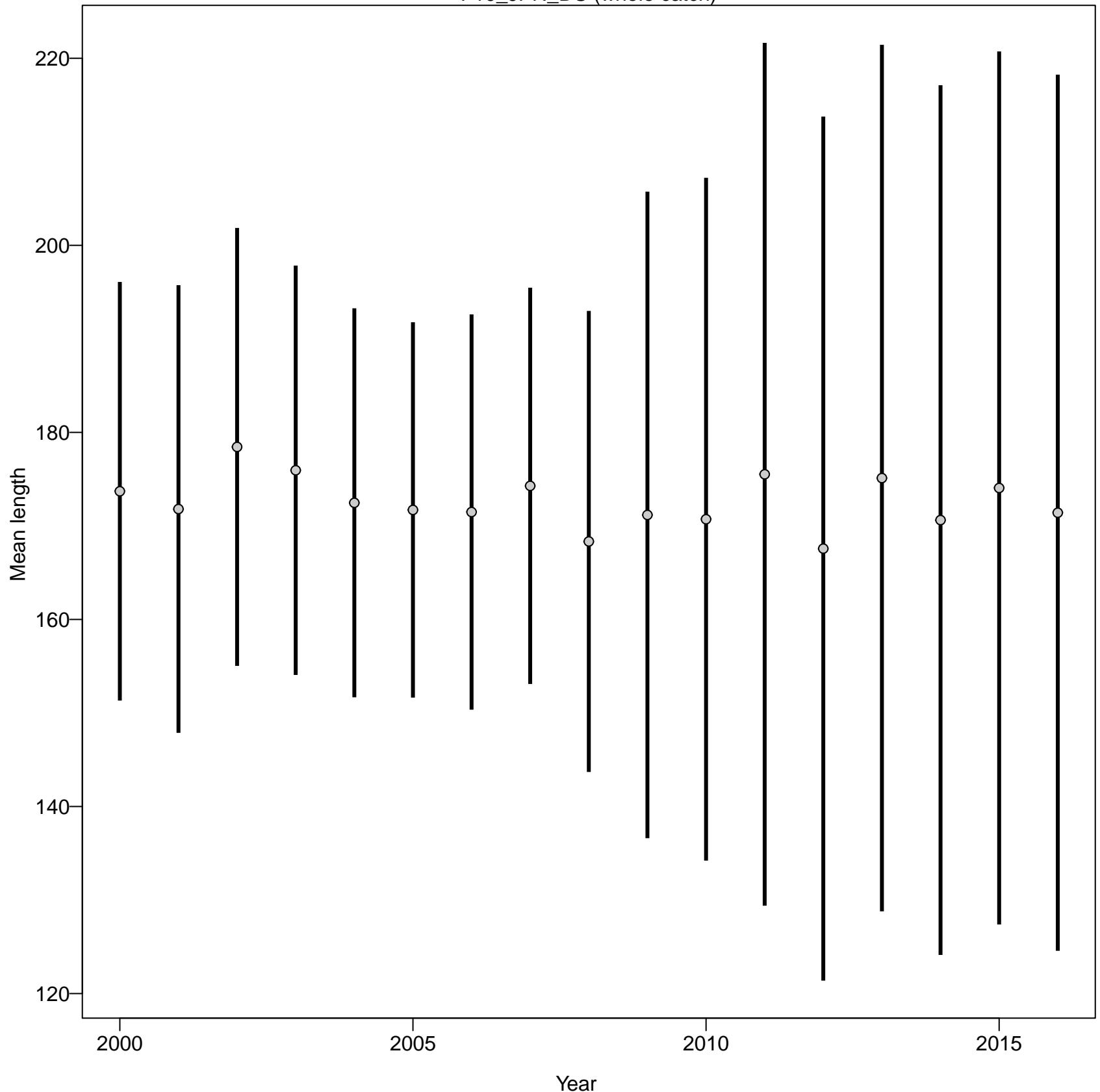
Proportion

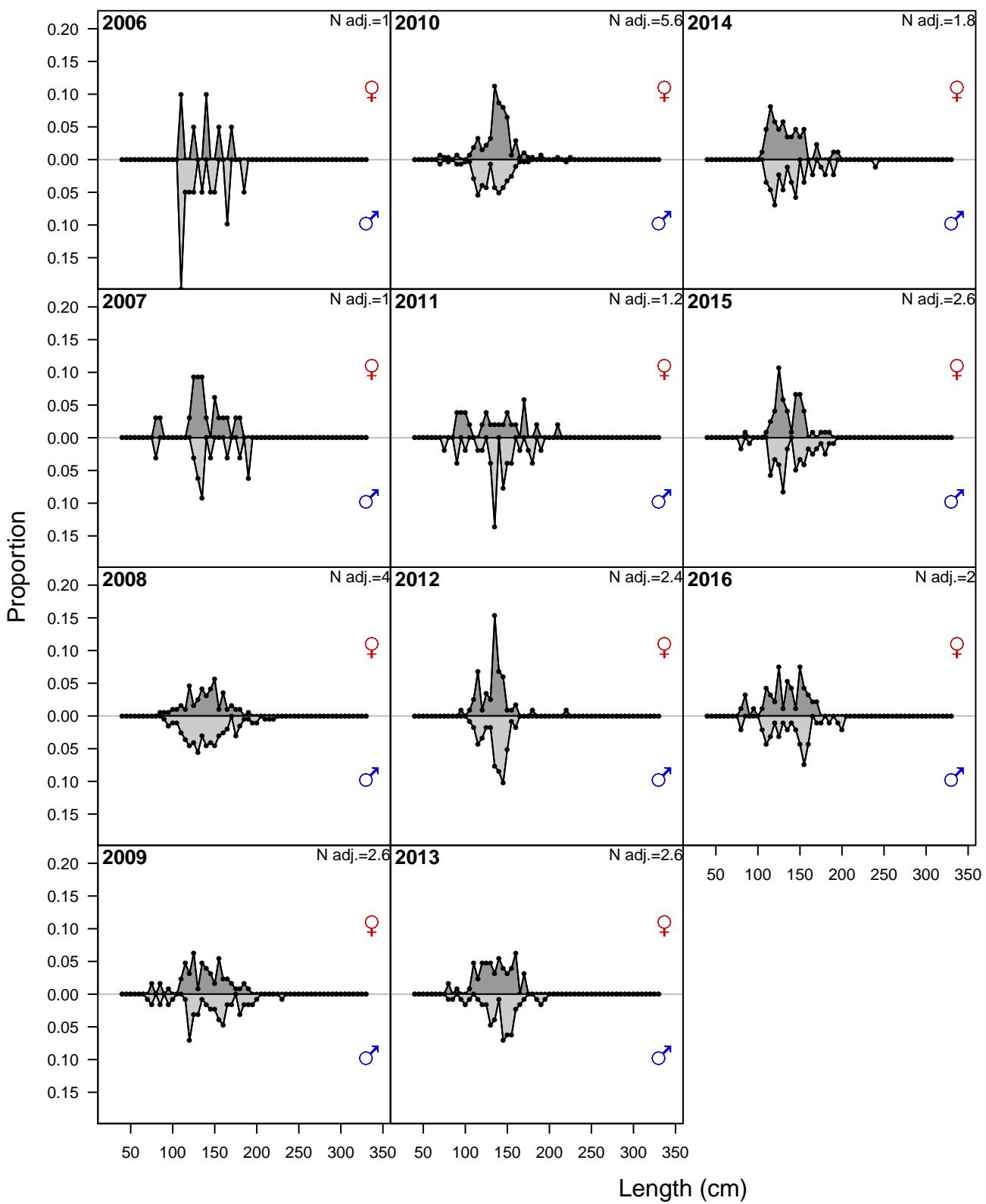


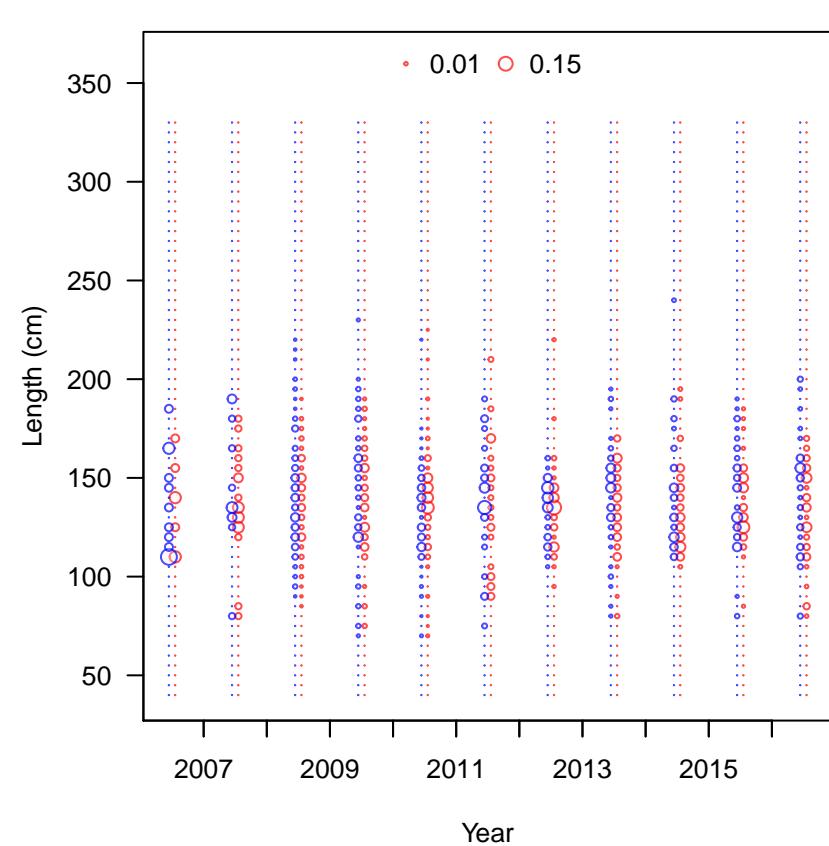
Length (cm)



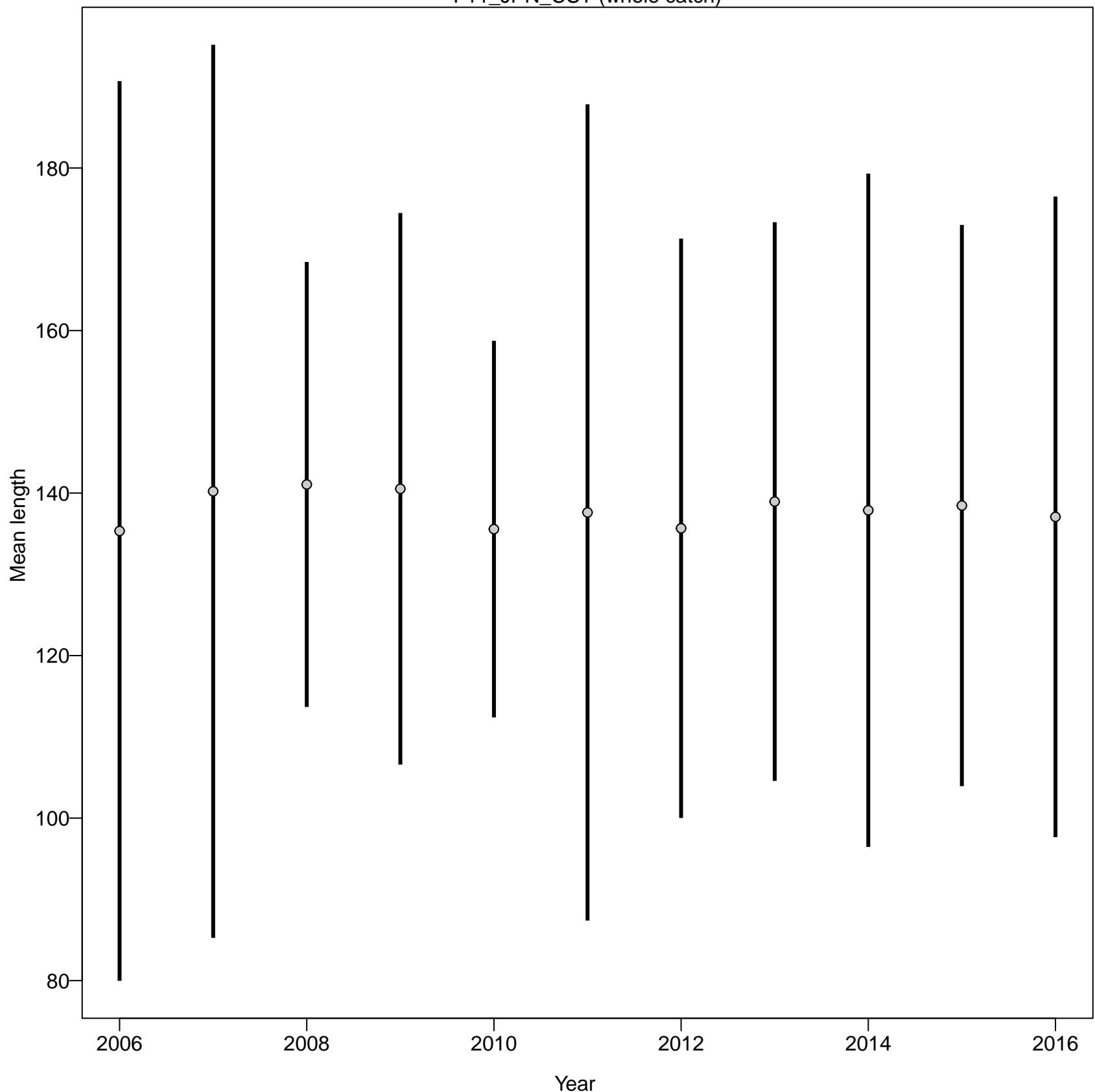
F10\_JPN\_DS (whole catch)

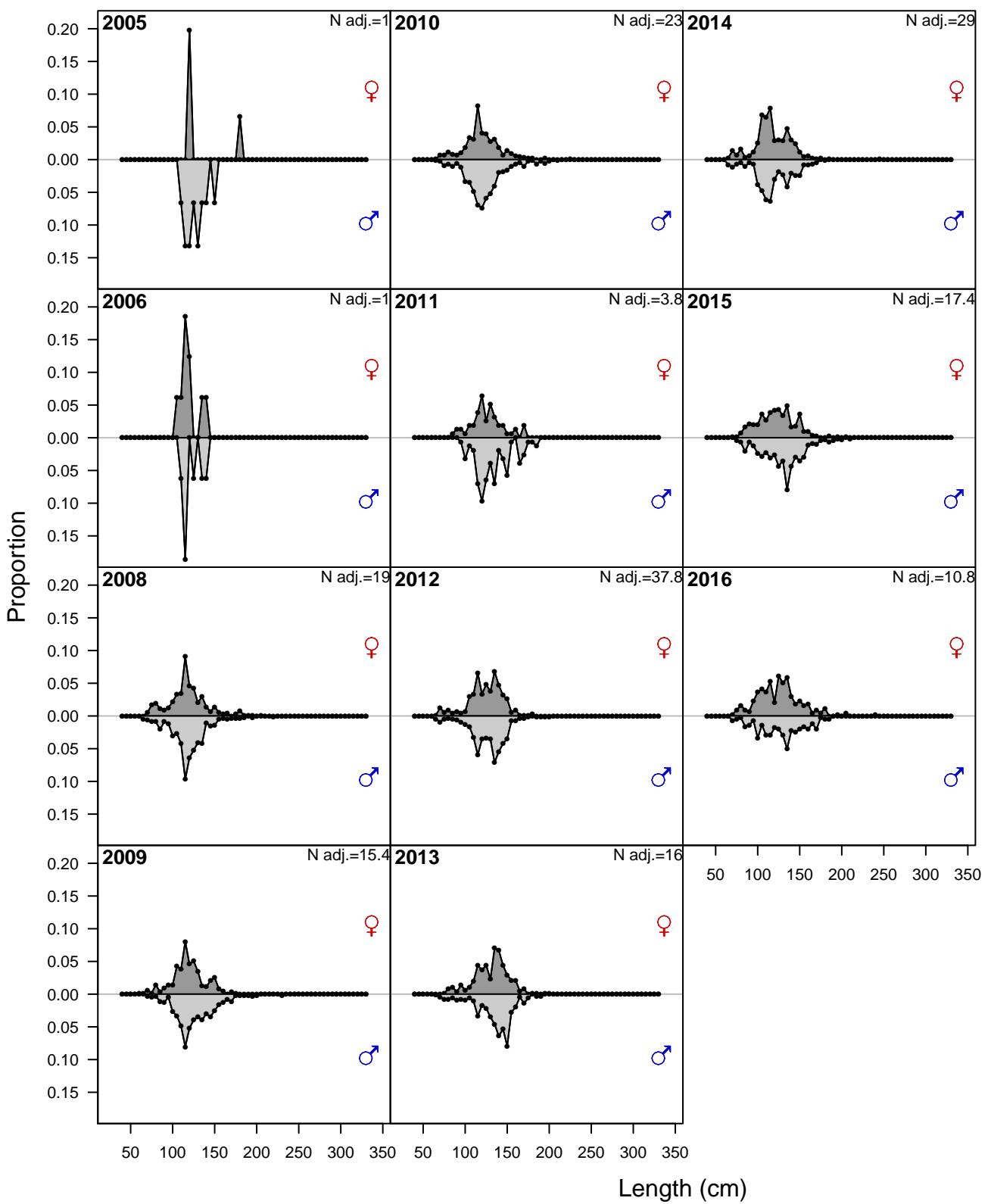


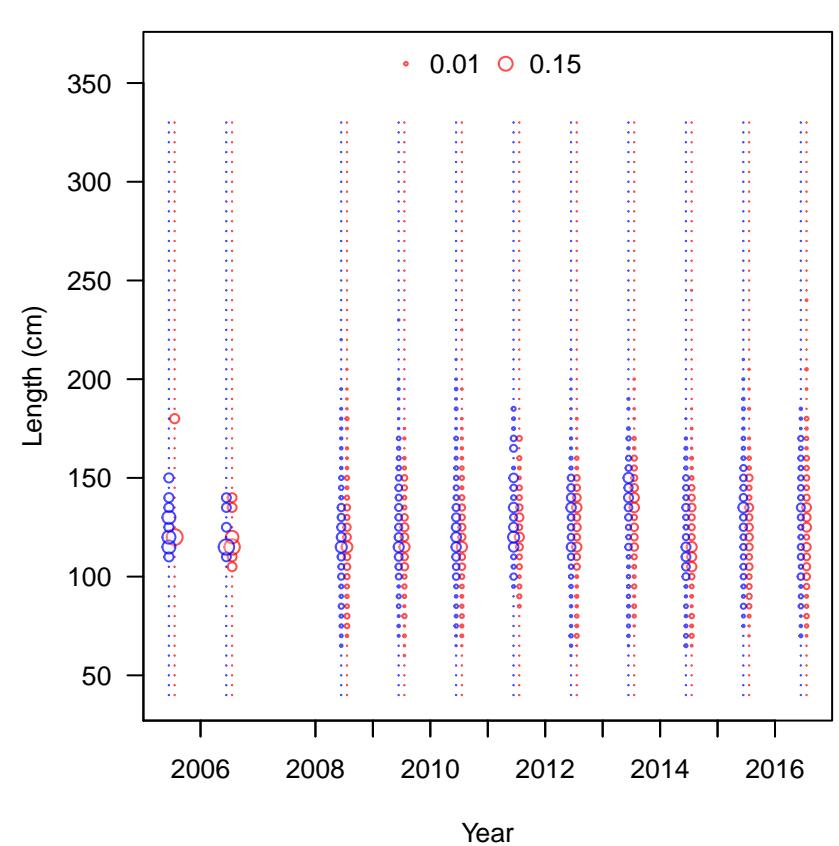




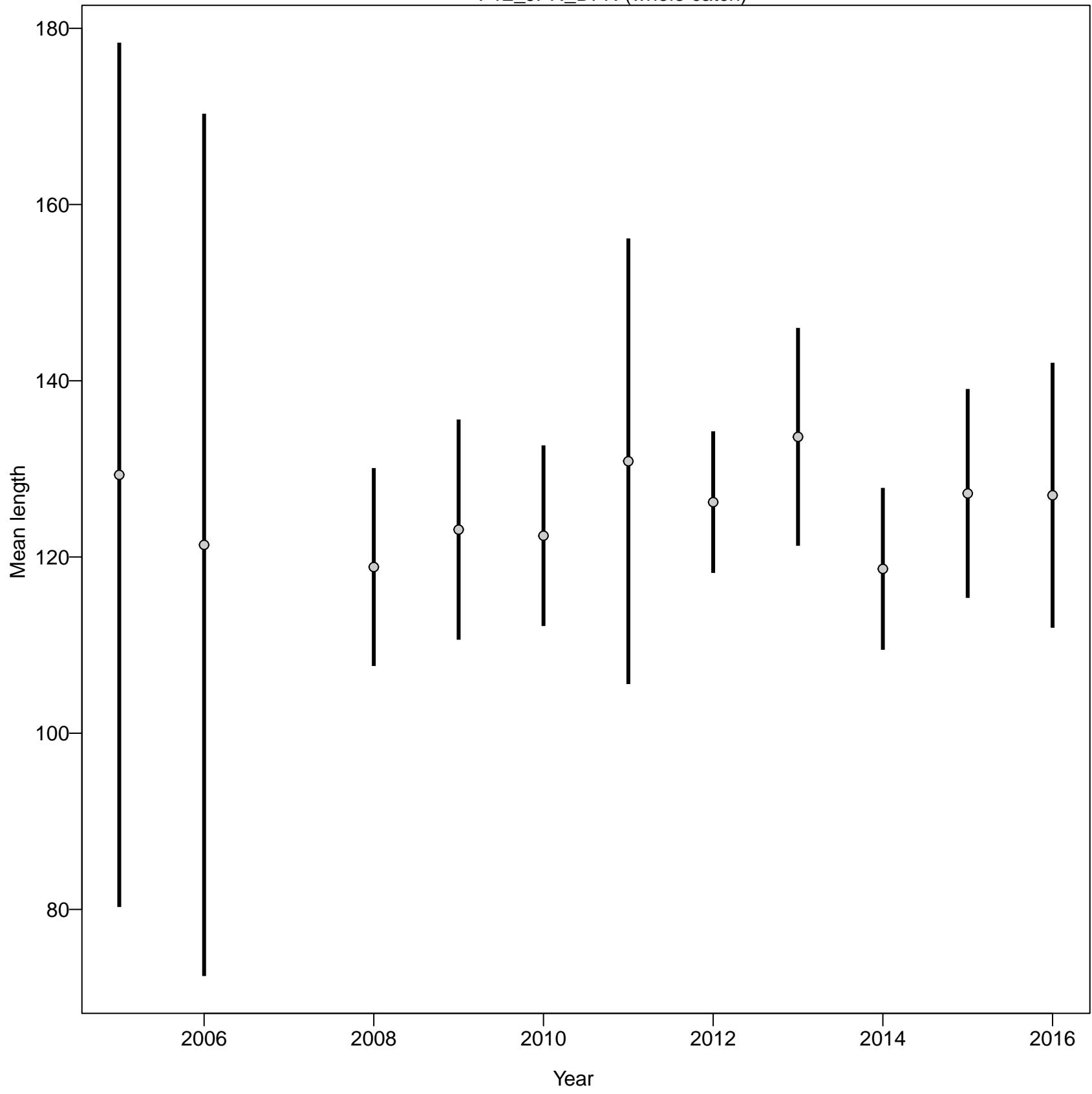
F11\_JPN\_CST (whole catch)

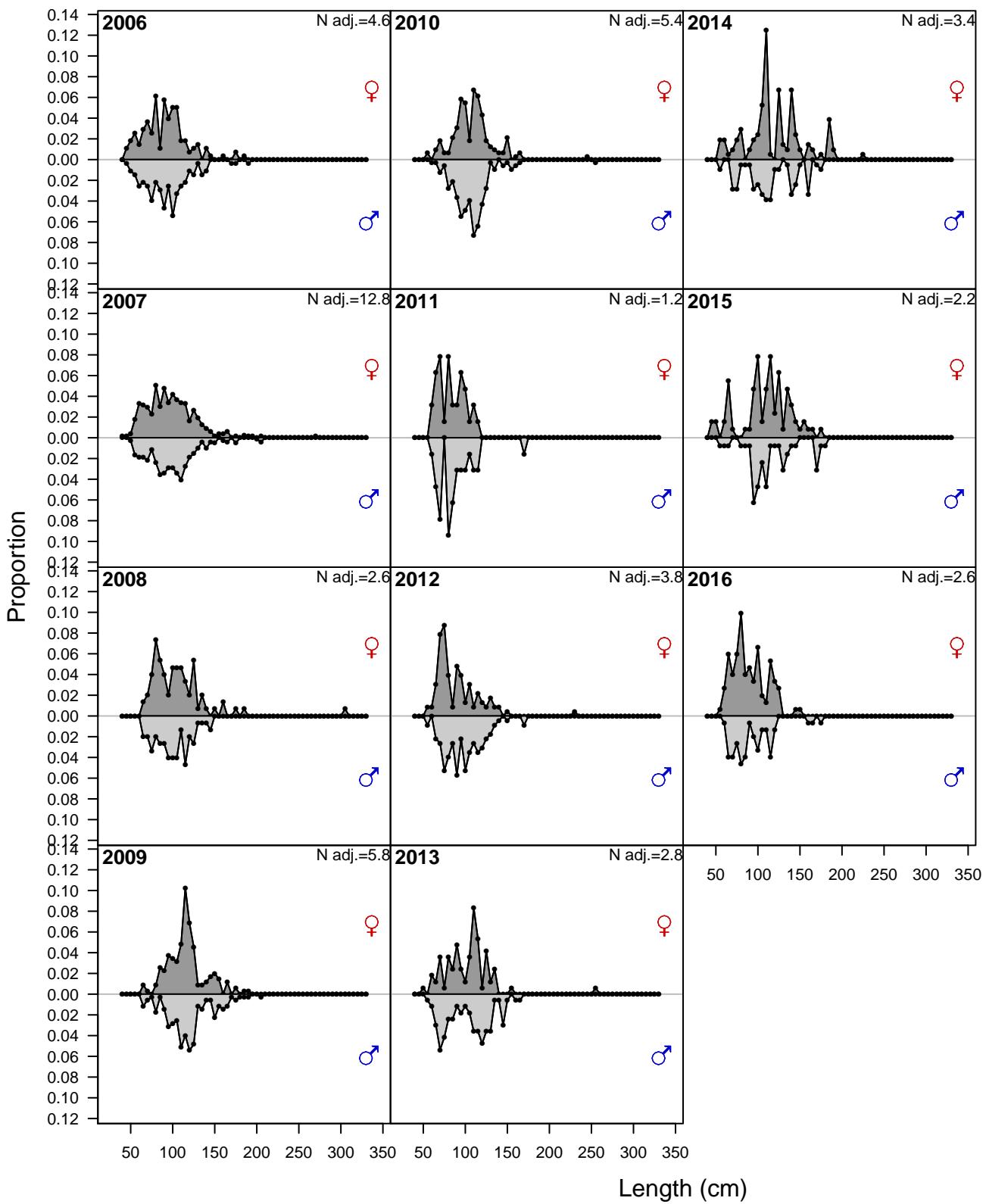


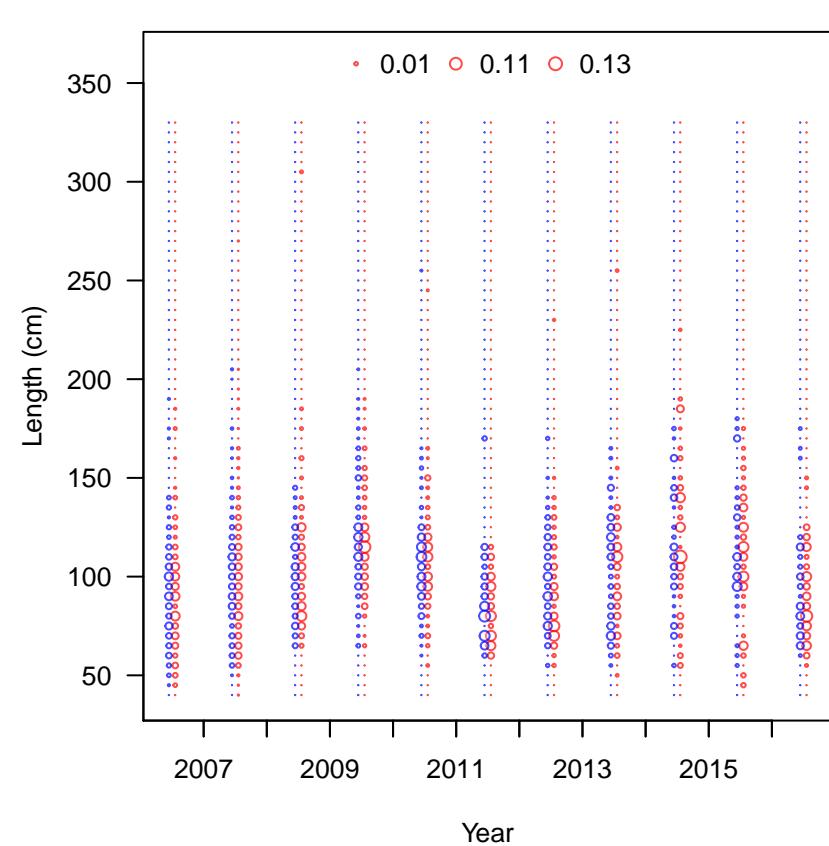




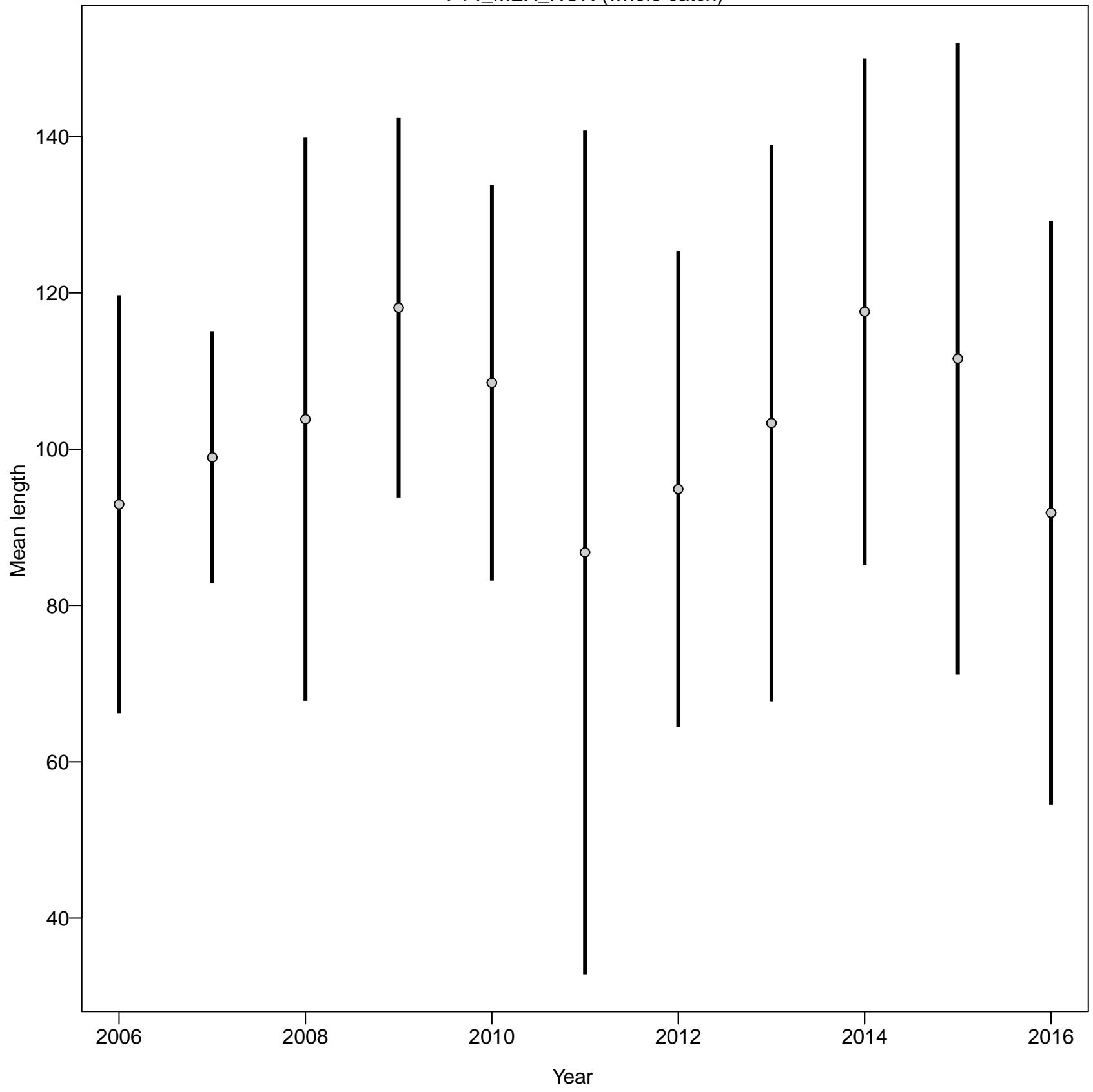
F12\_JPN\_DFN (whole catch)

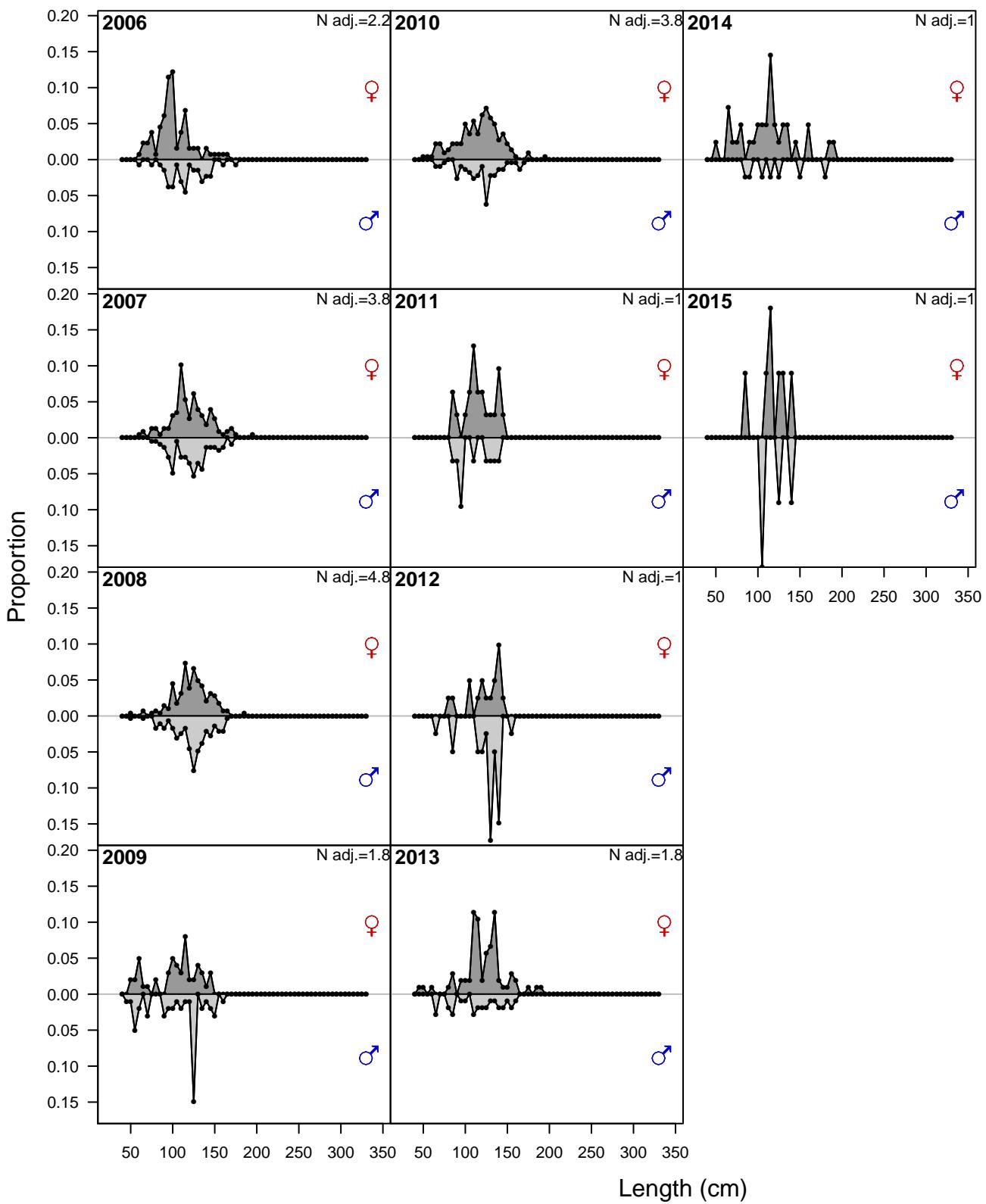


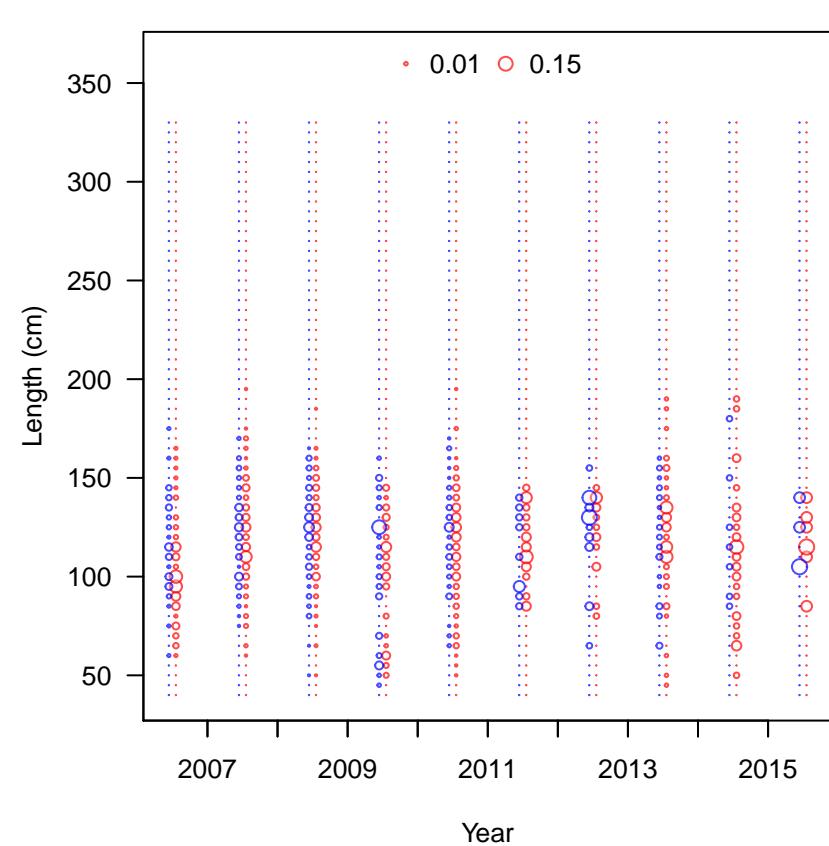




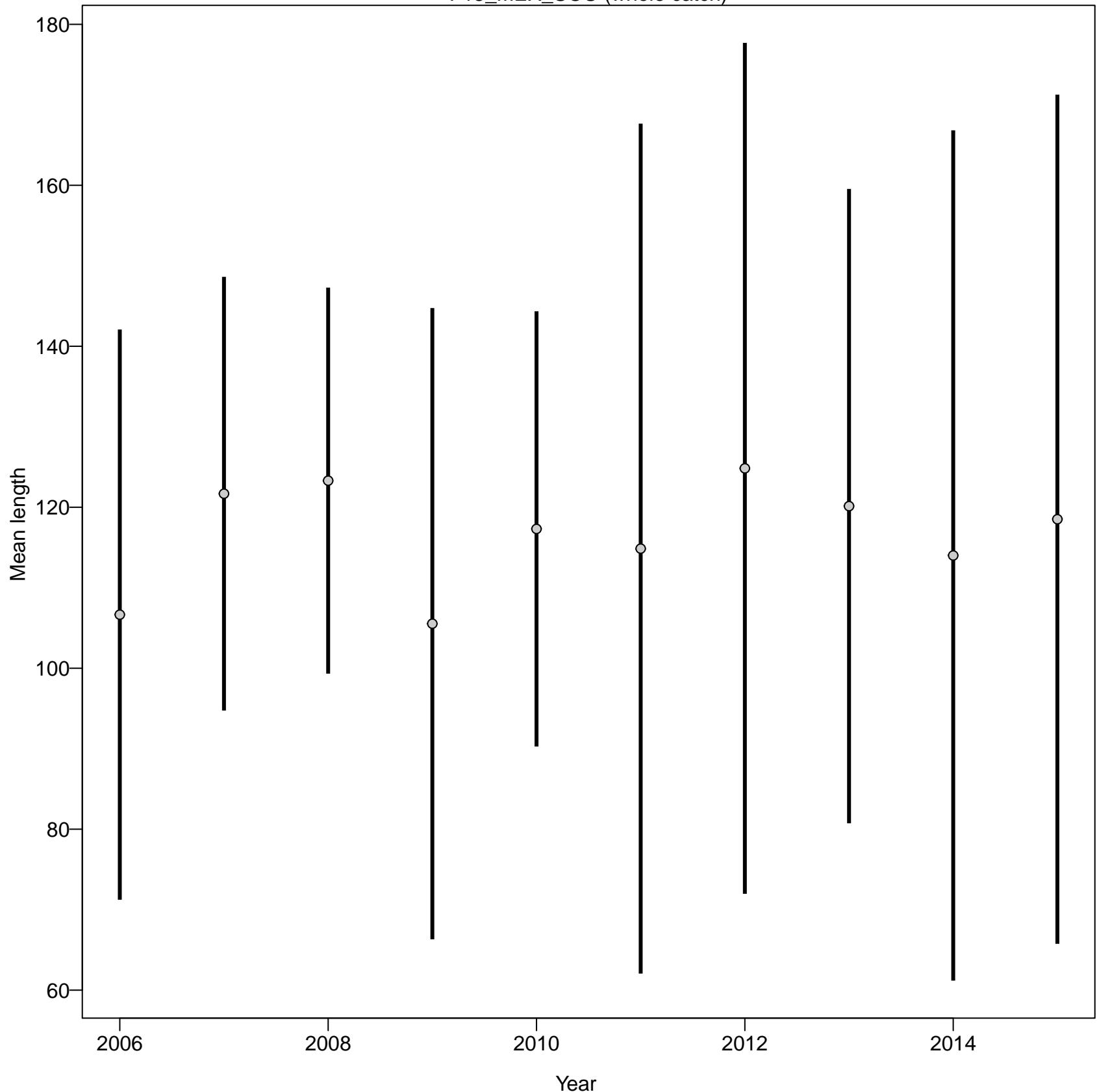
F14\_MEX\_NOR (whole catch)

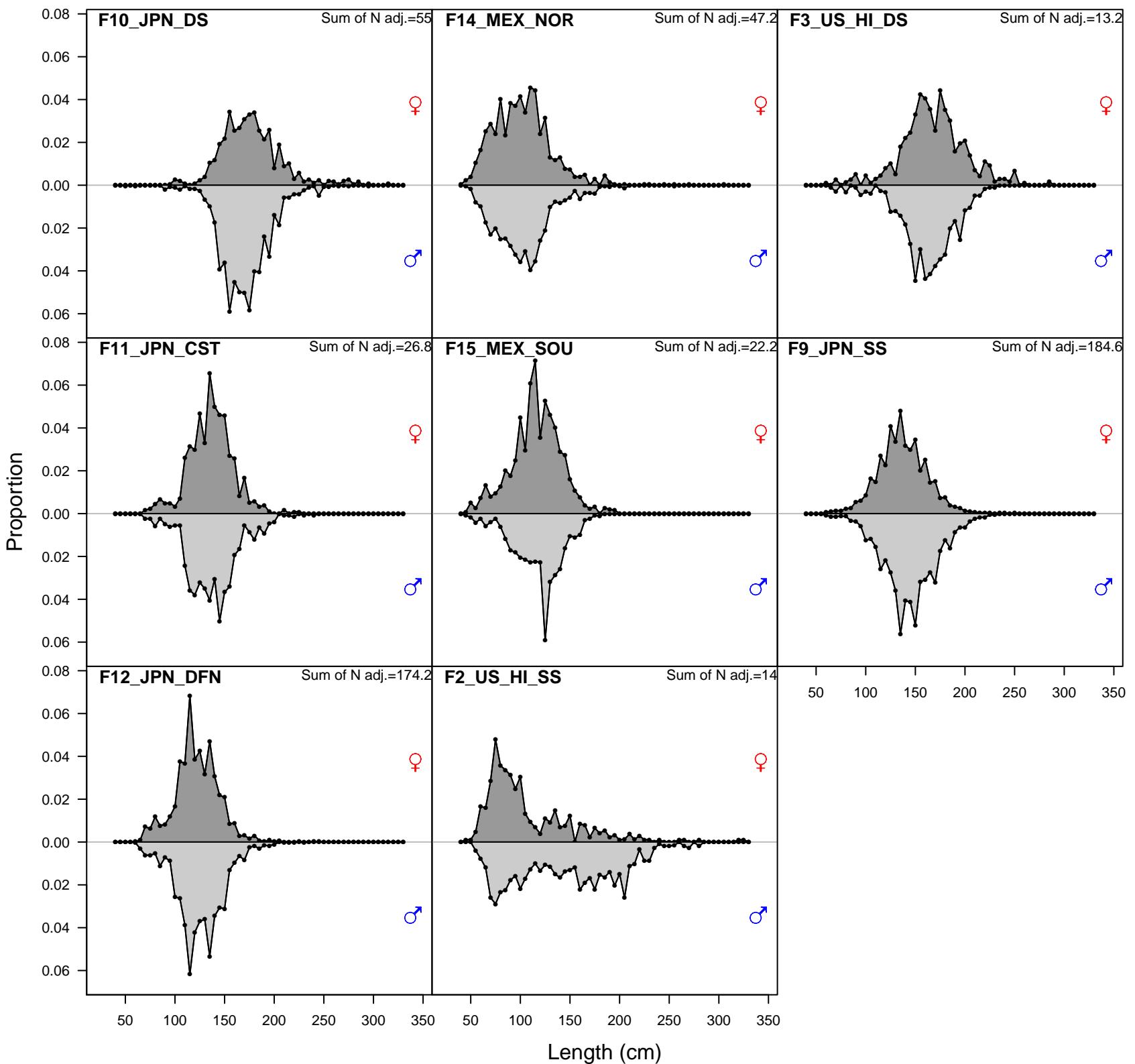






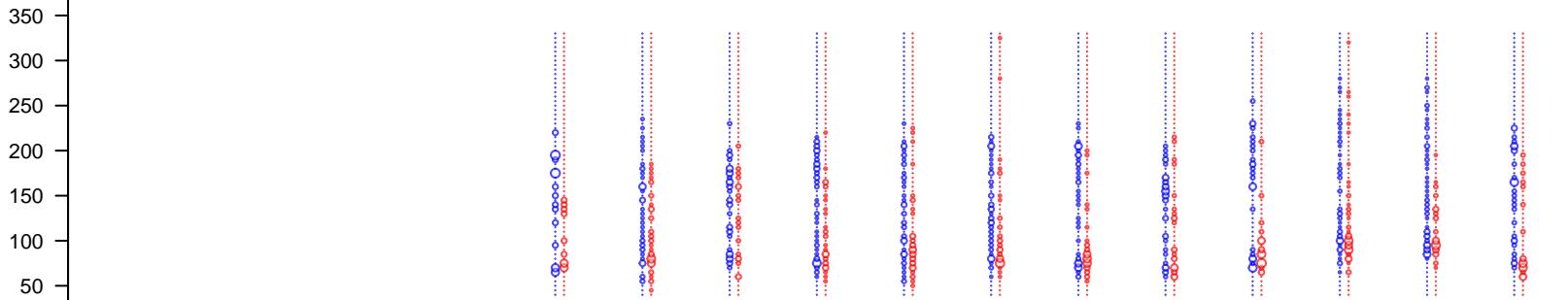
F15\_MEX\_SOU (whole catch)





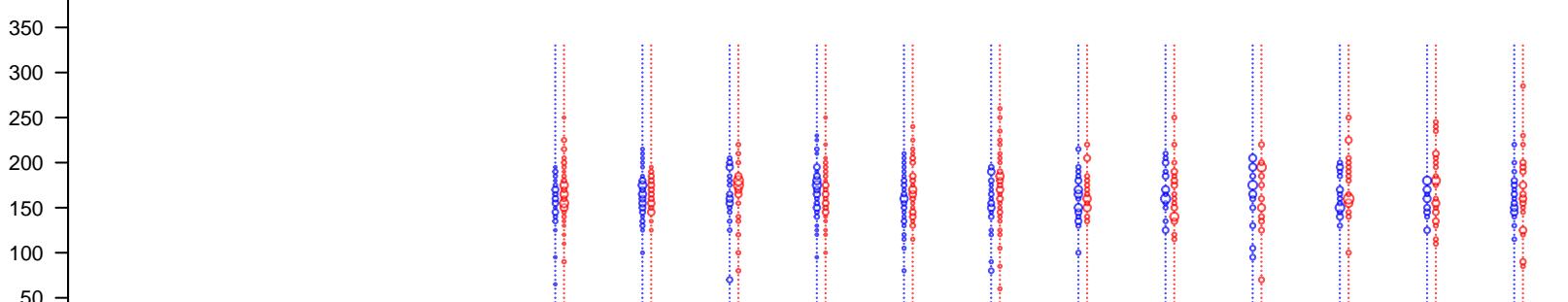
F2\_US\_HI\_SS

• 0.01 ○ 0.105

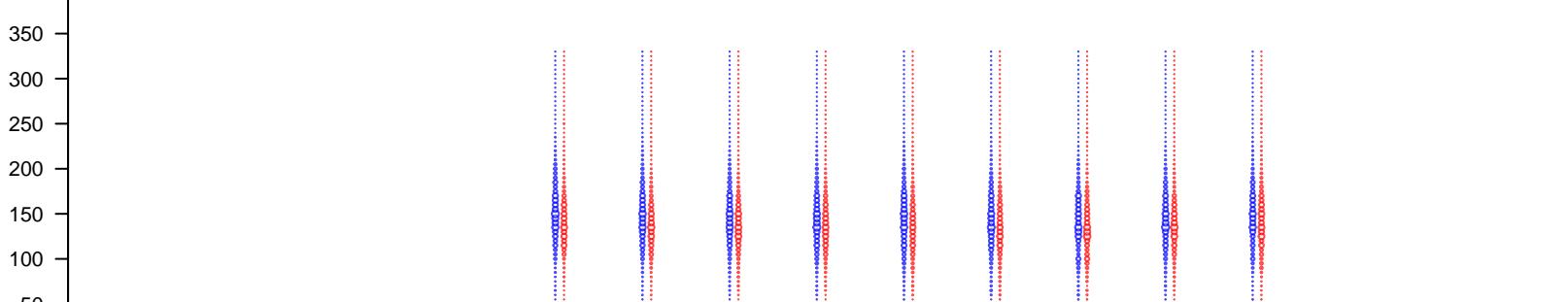


F3\_US\_HI\_DS

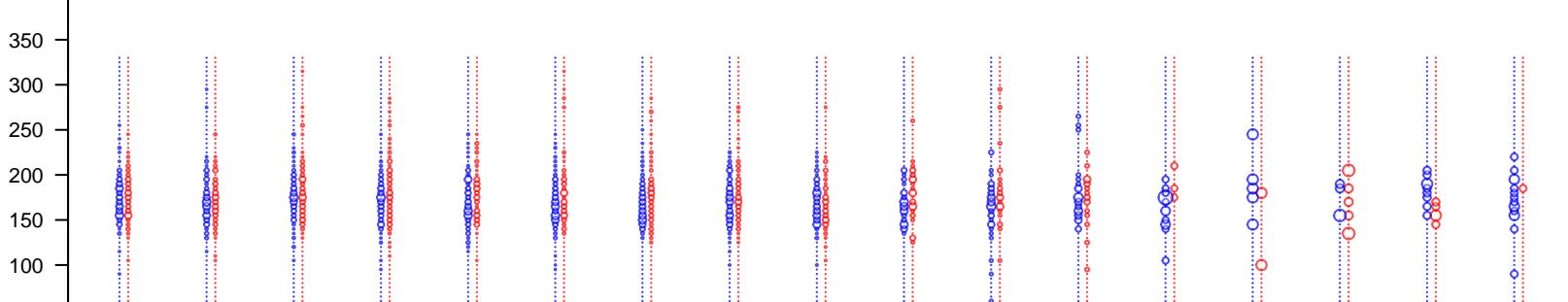
Length (cm)



F9\_JPN\_SS



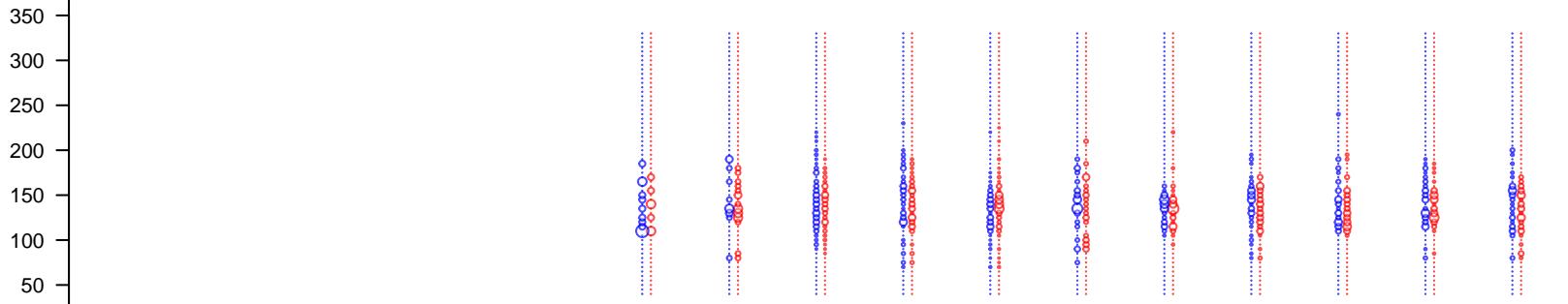
F10\_JPN\_DS



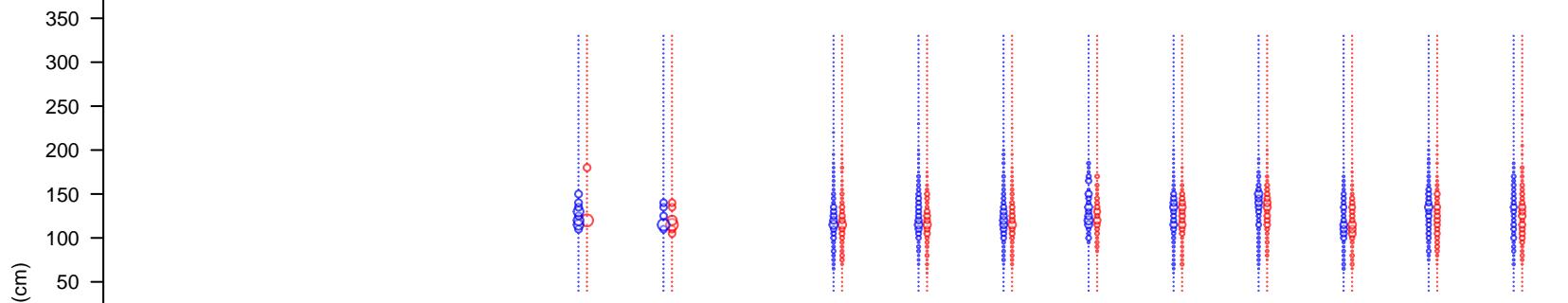
Year

F11\_JPN\_CST

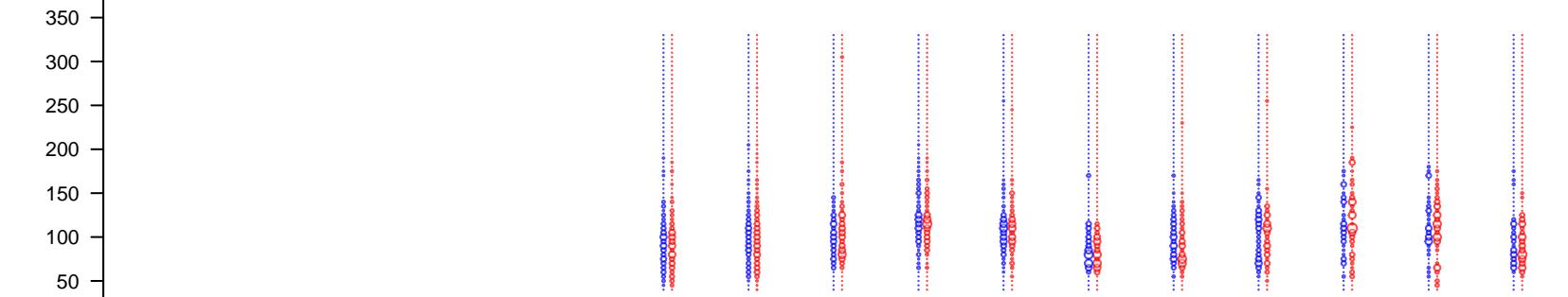
• 0.01 ○ 0.15



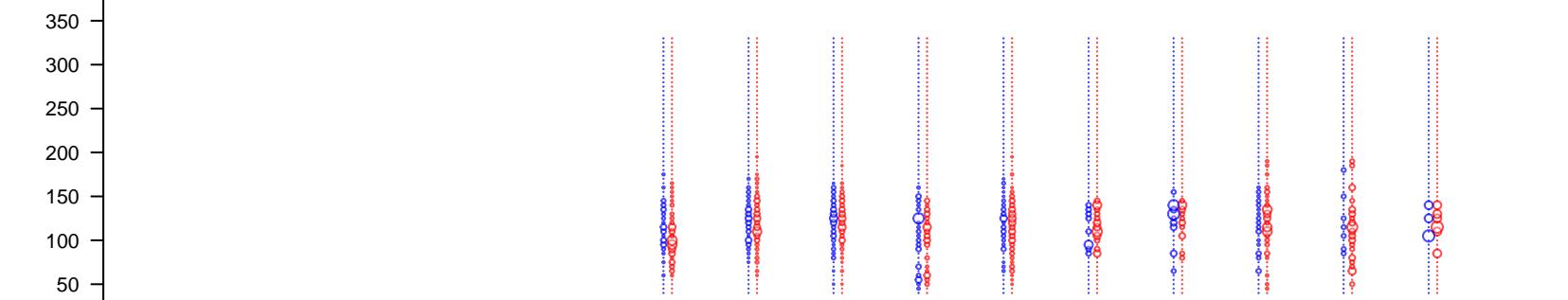
F12\_JPN\_DFN

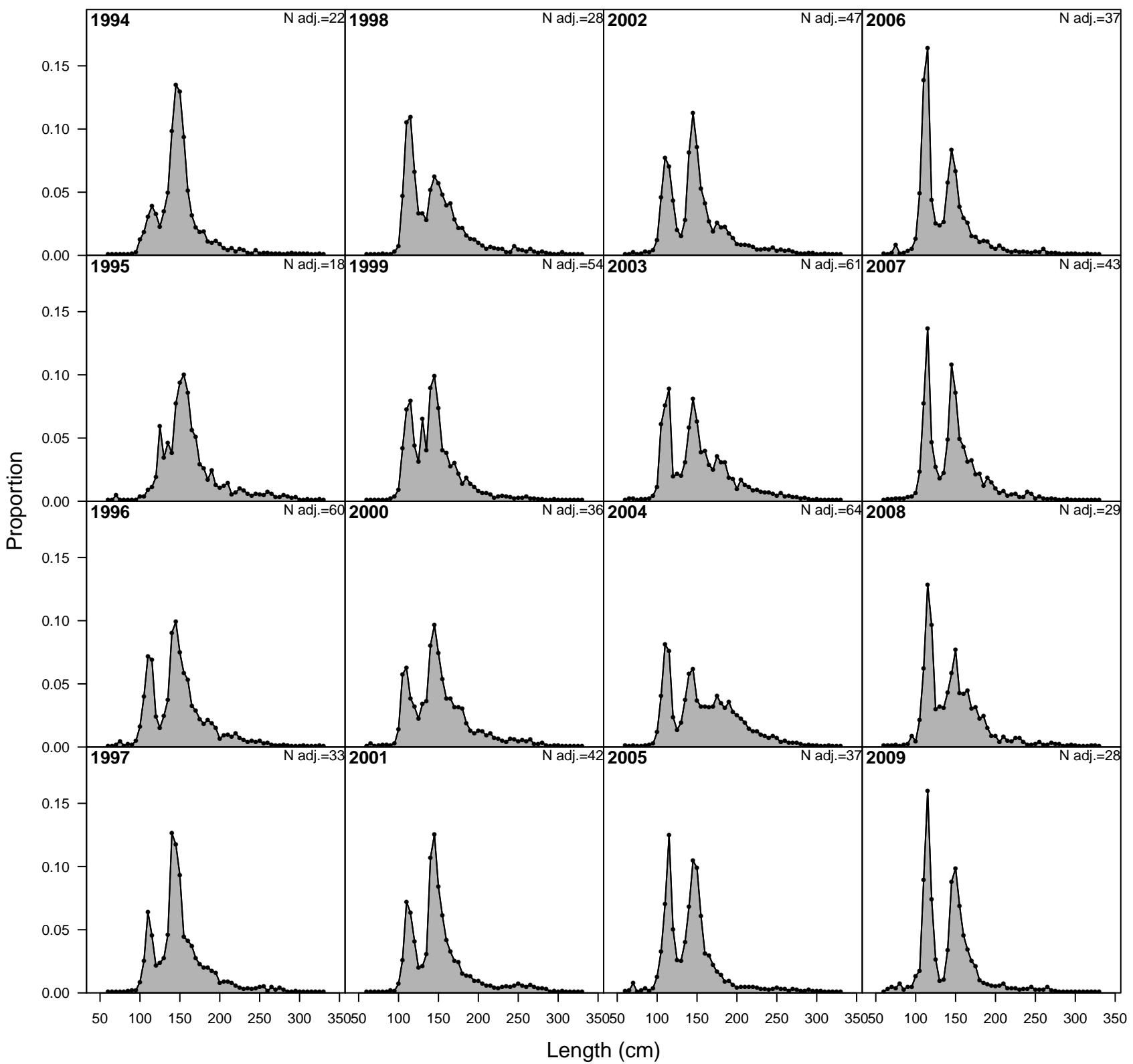


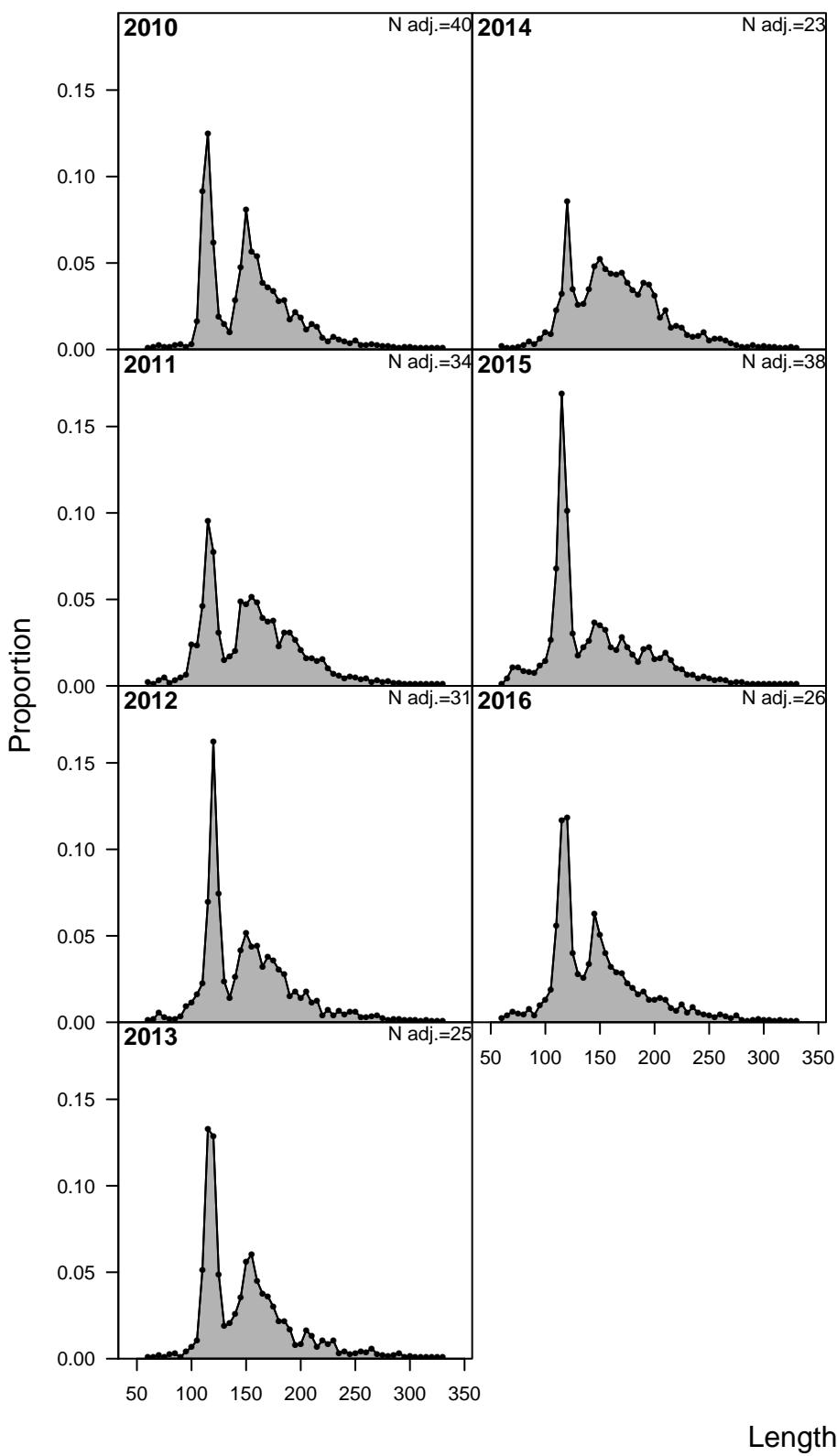
F14\_MEX\_NOR

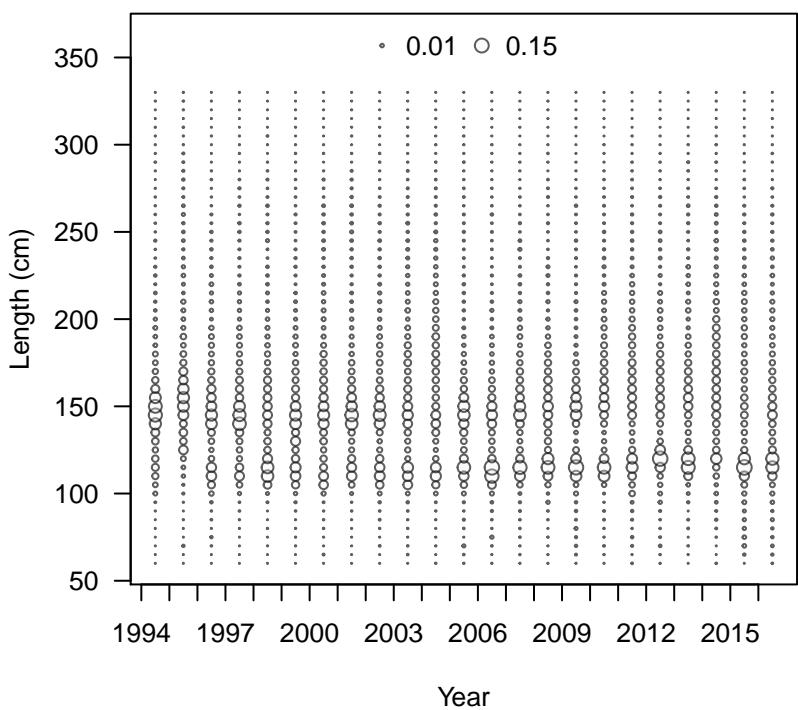


F15\_MEX\_SOU

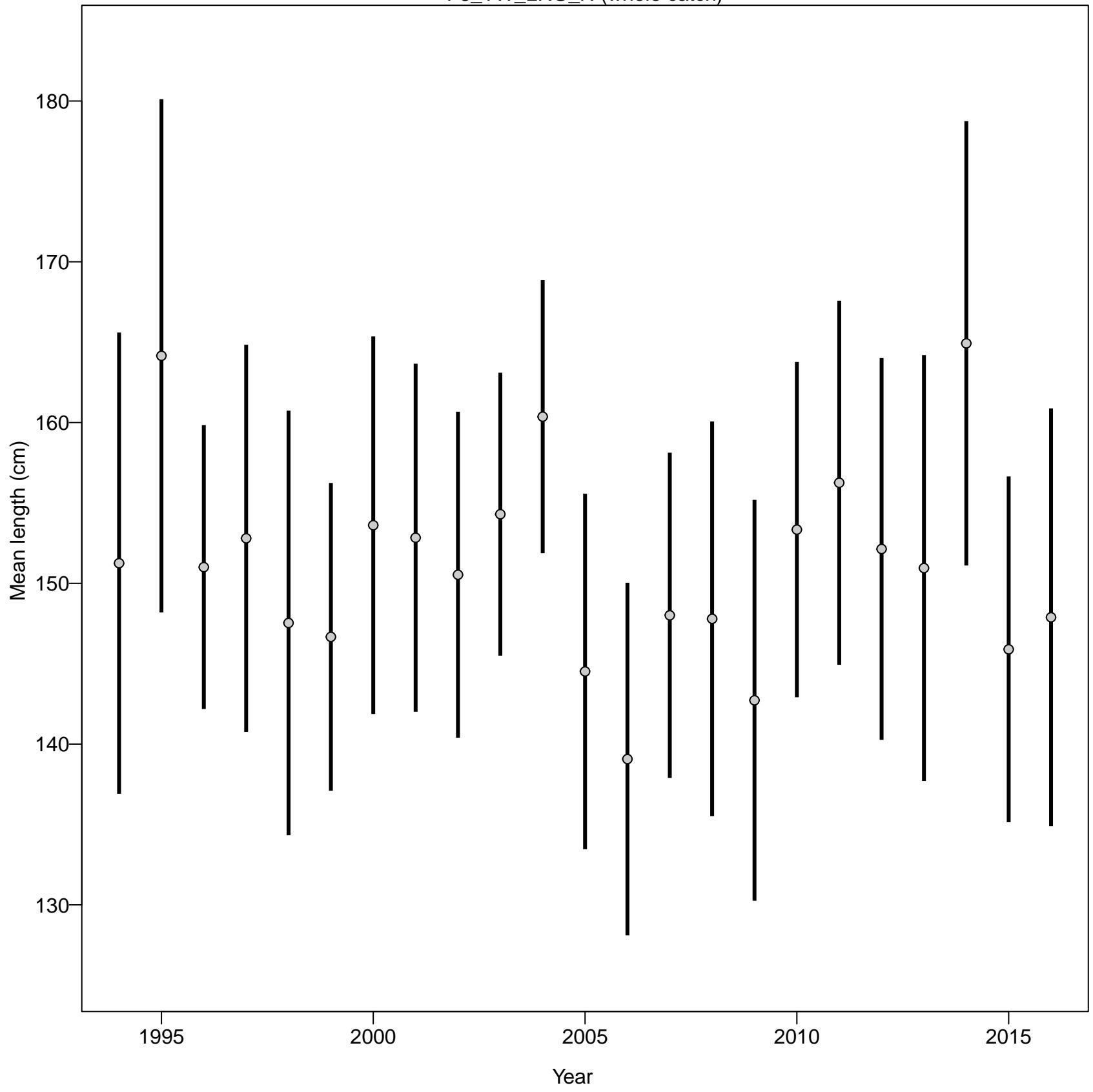


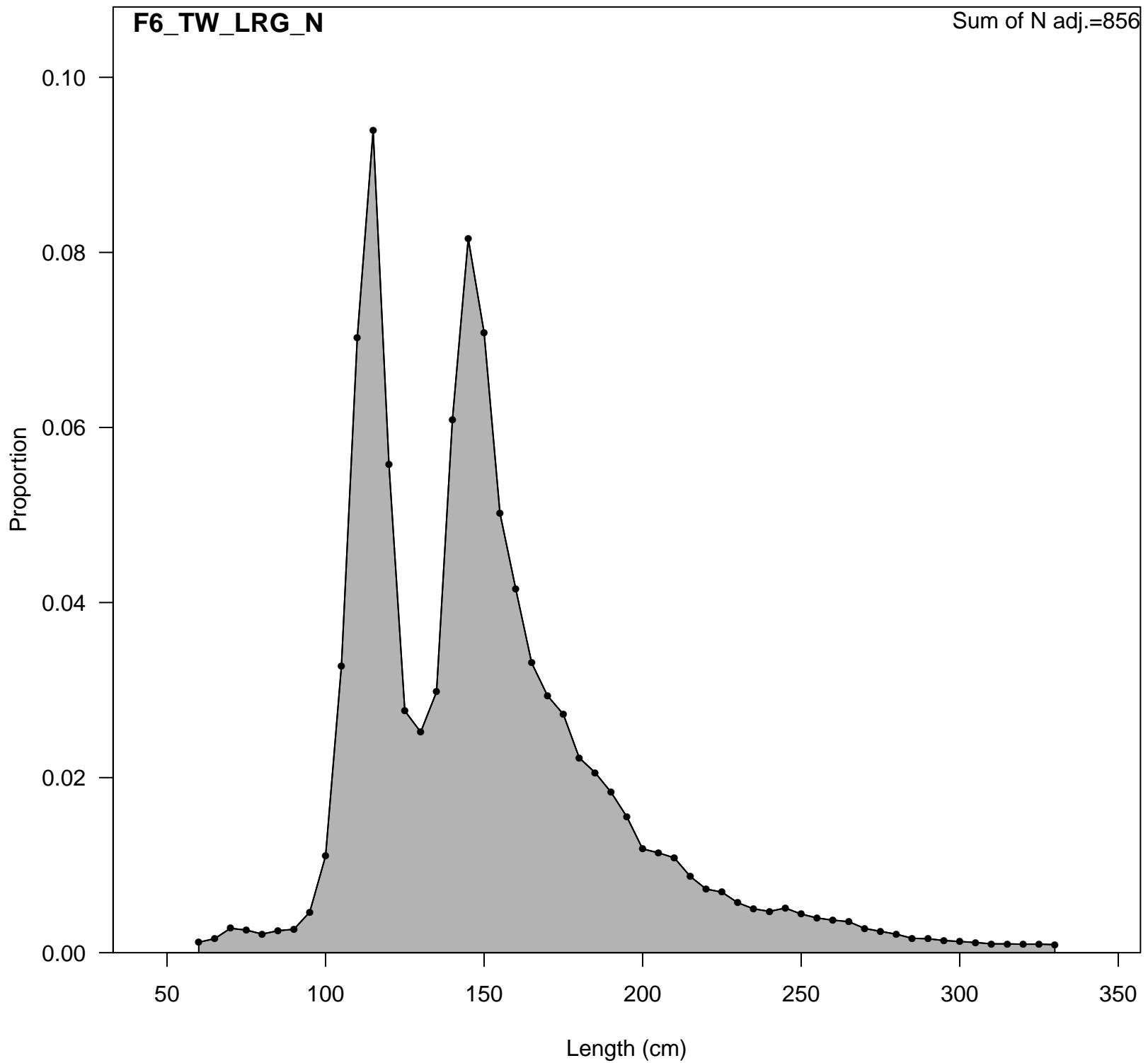


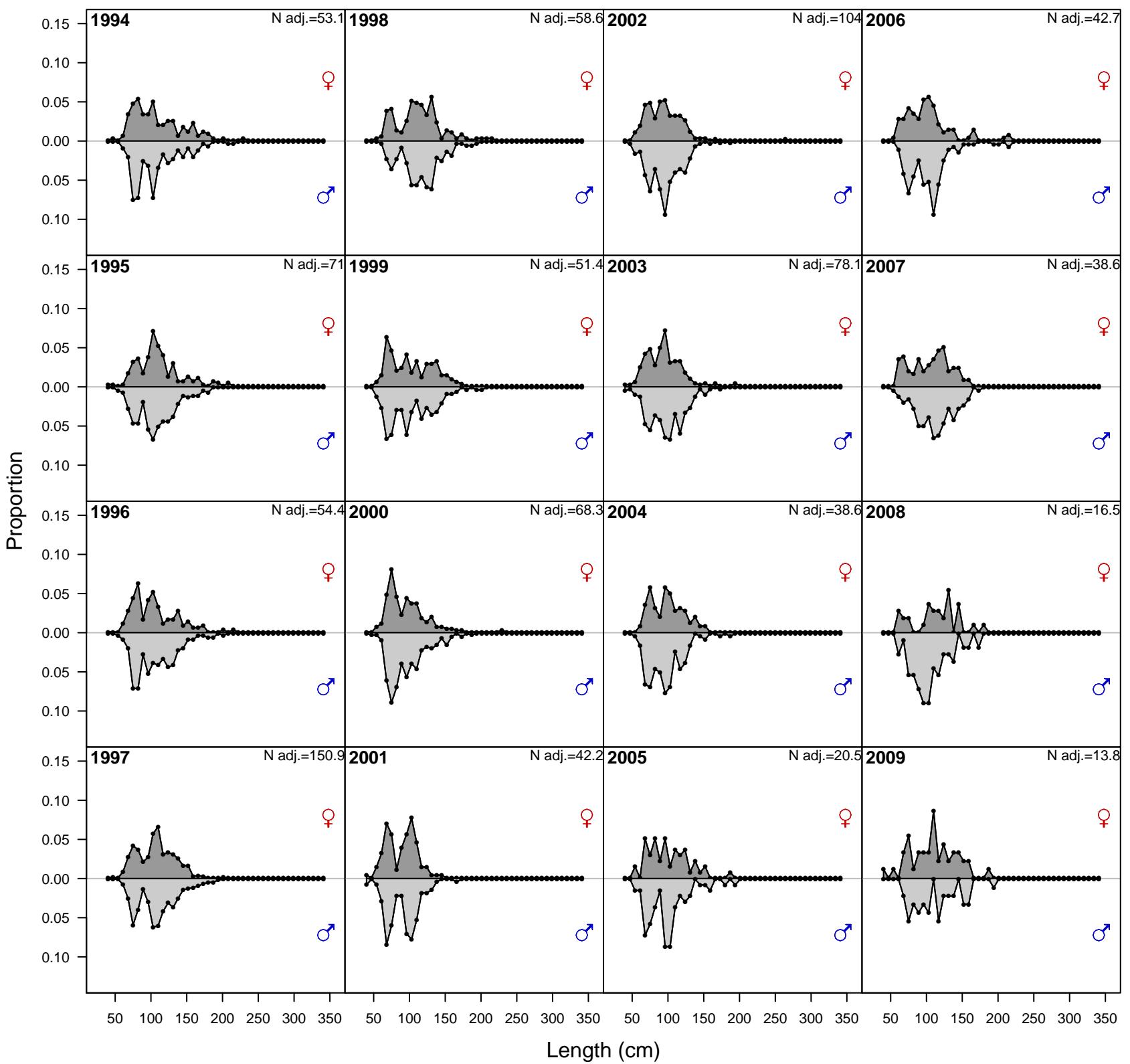


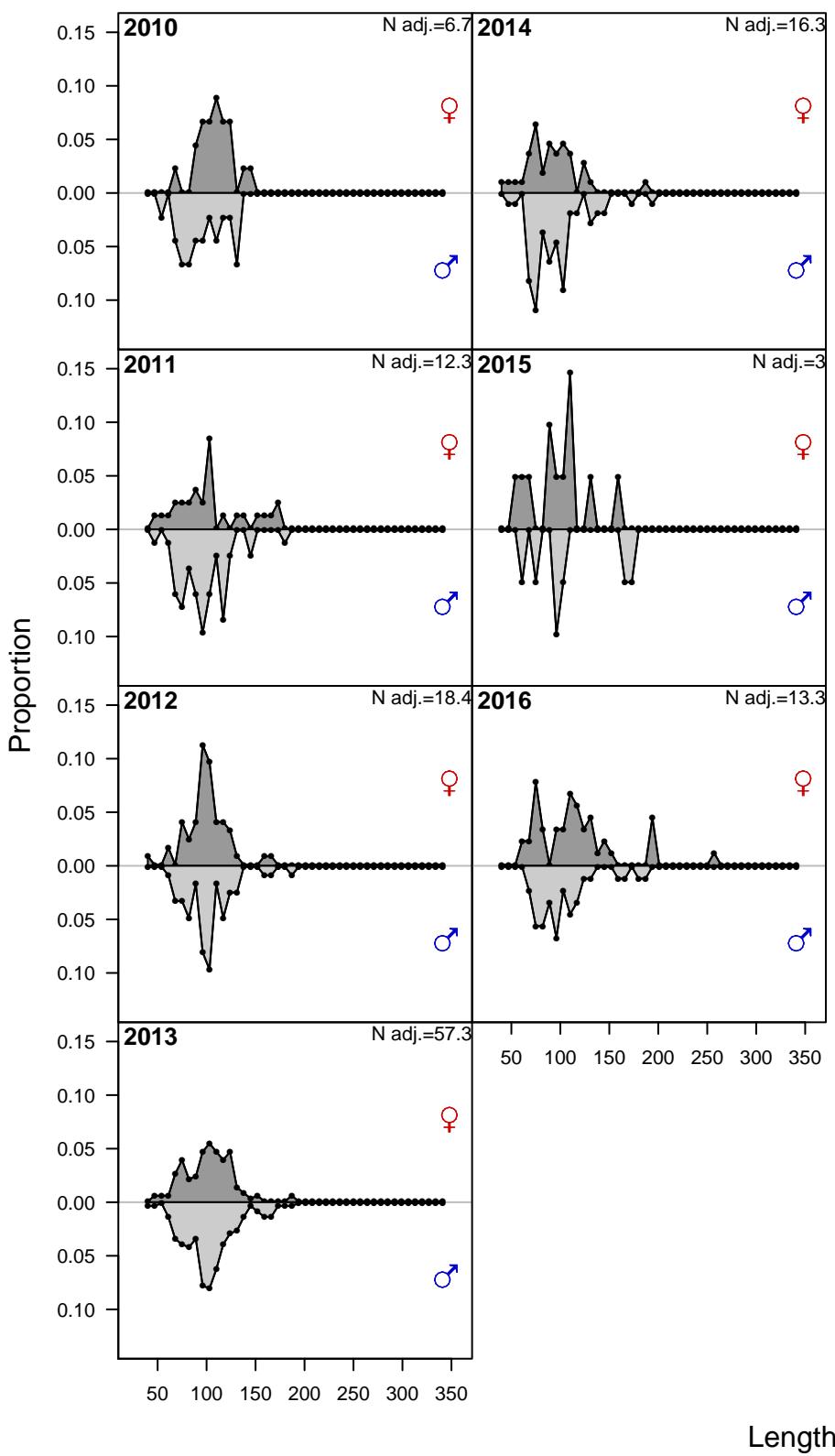


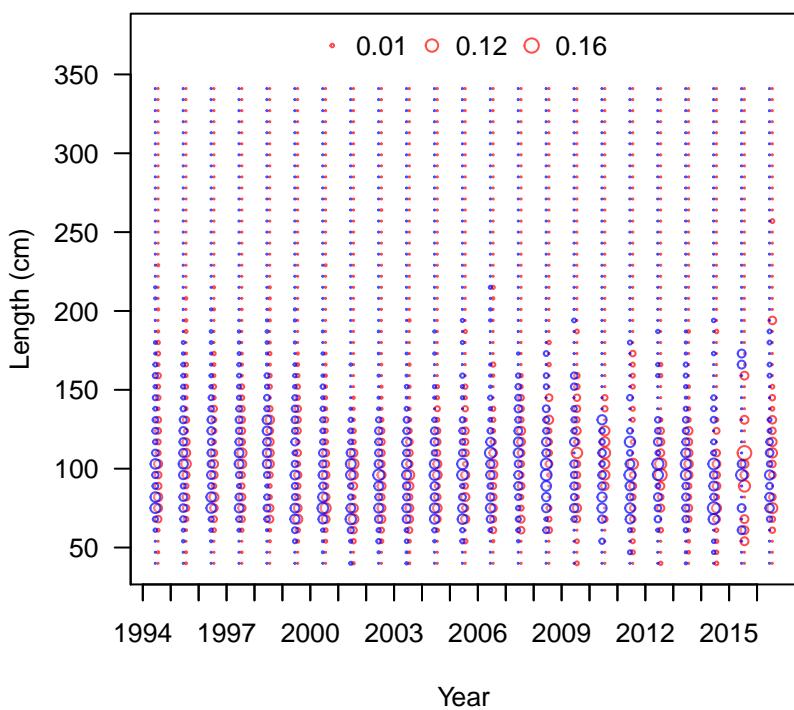
F6\_TW\_LRG\_N (whole catch)



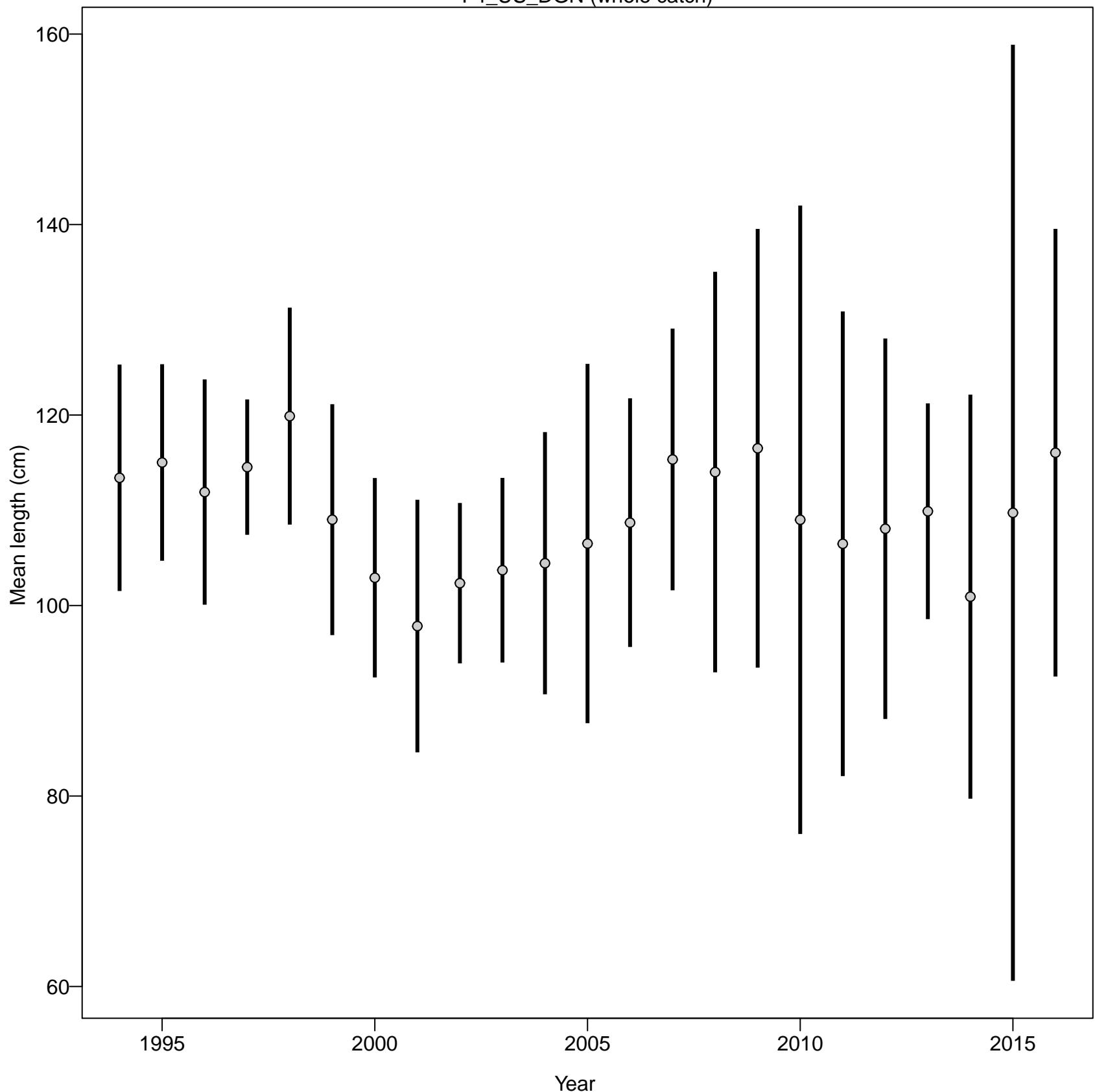


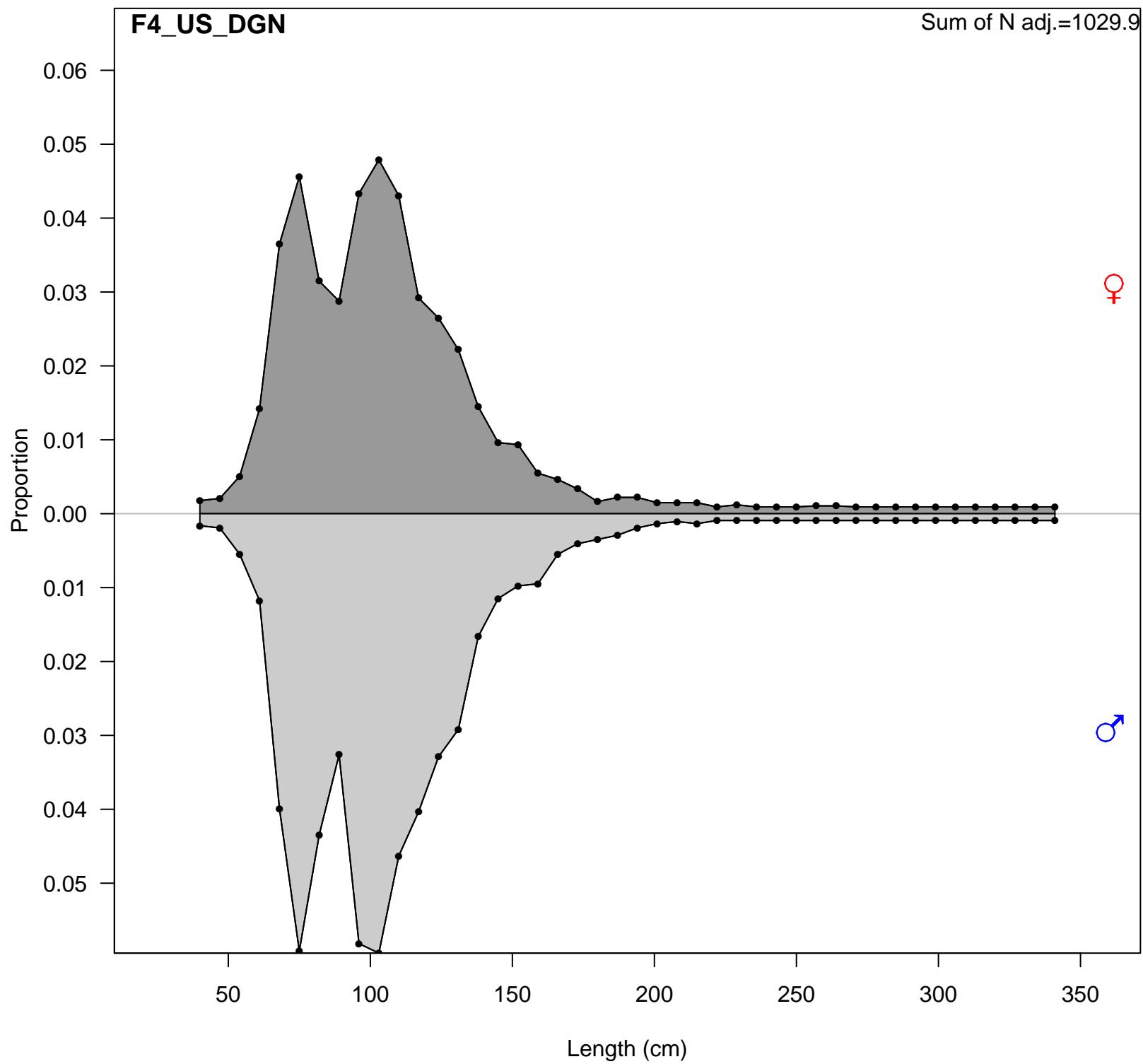


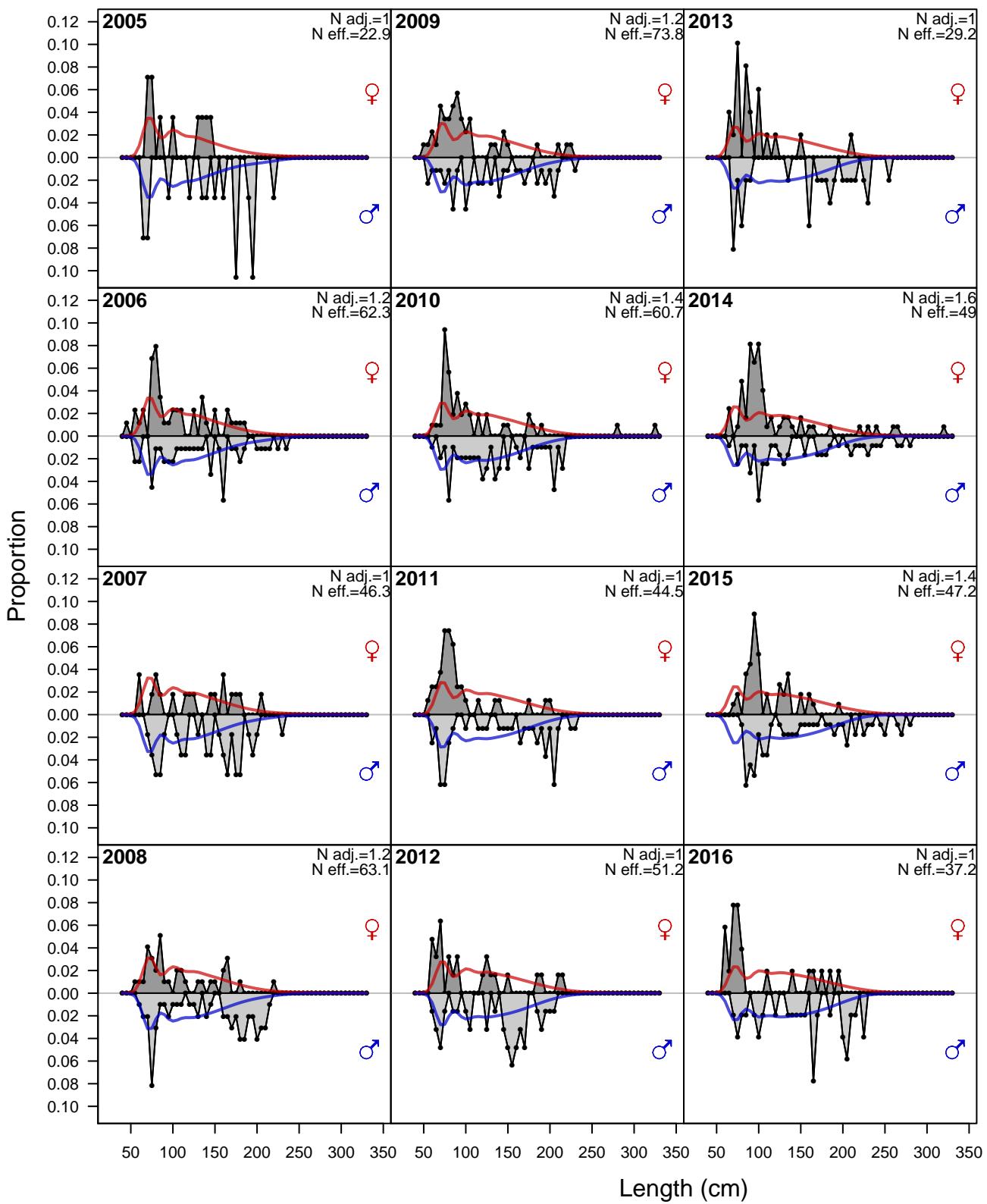


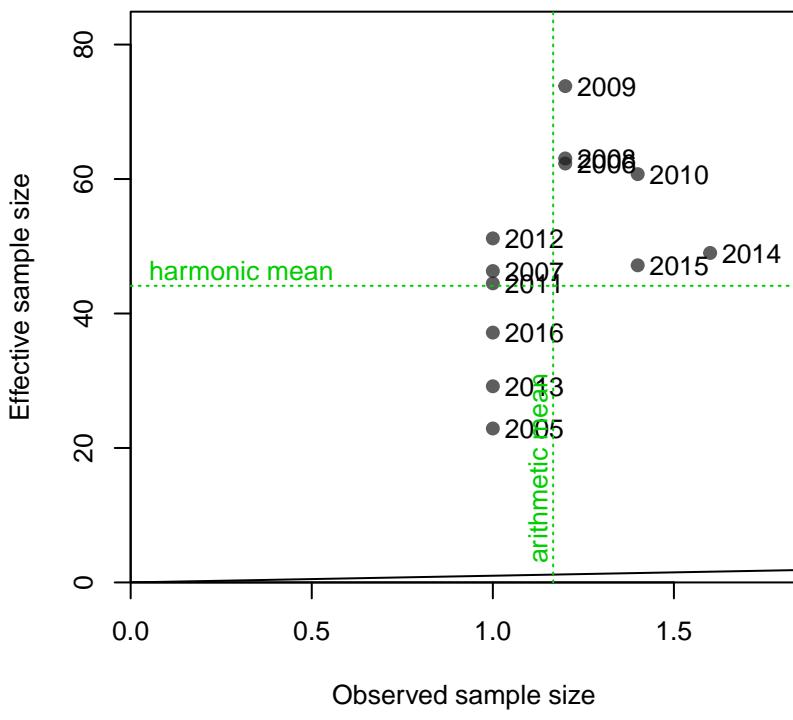
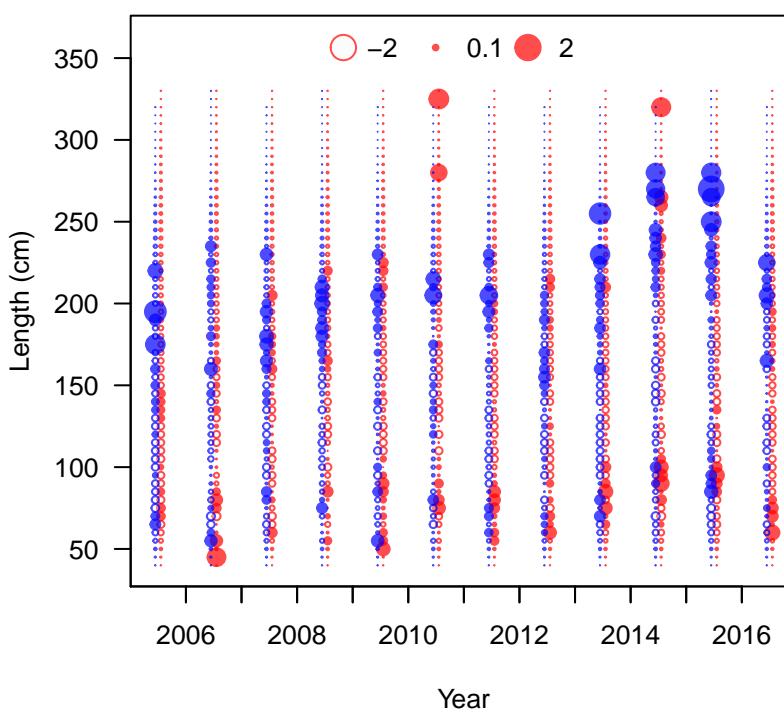


### F4\_US\_DGN (whole catch)

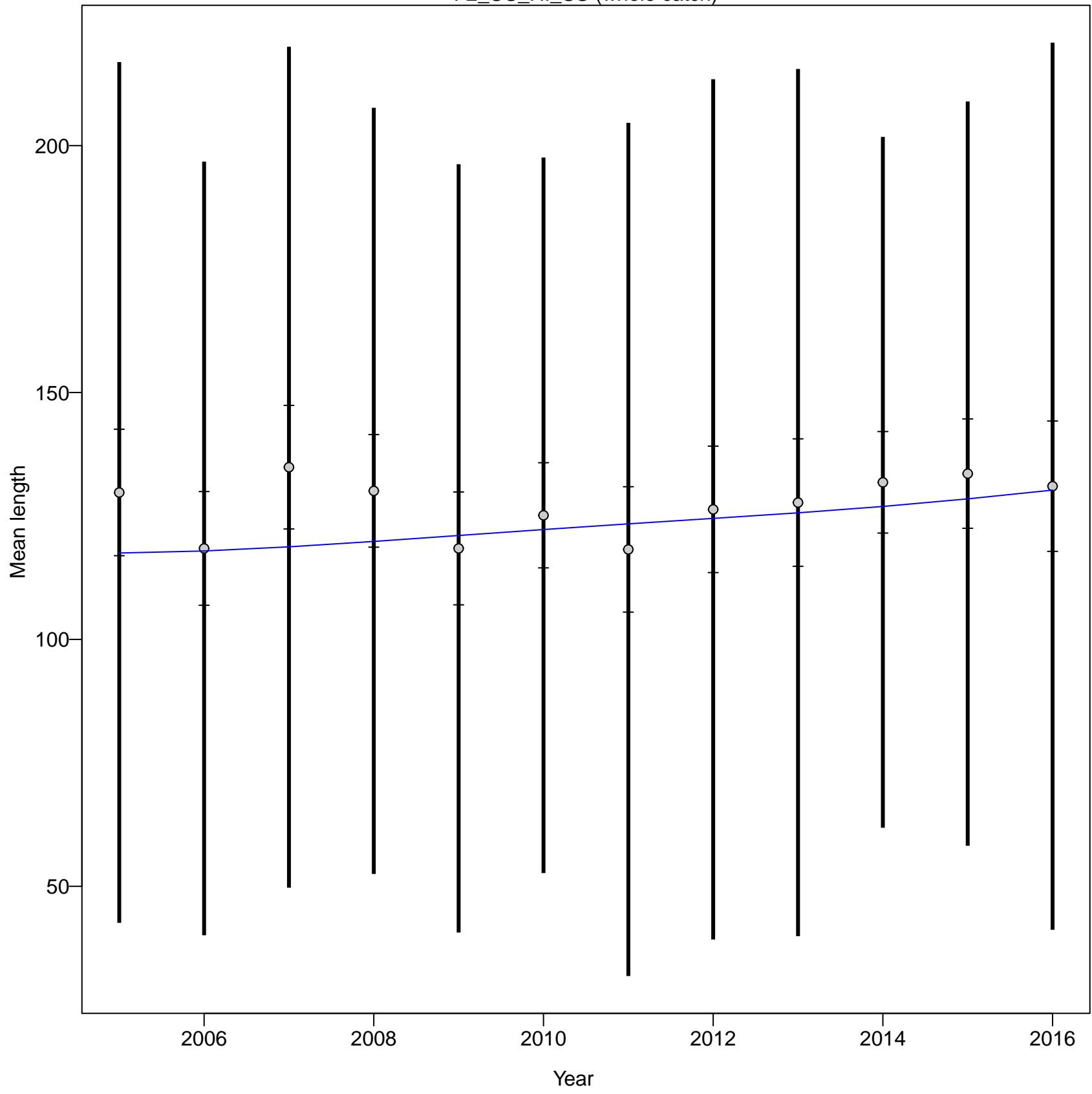


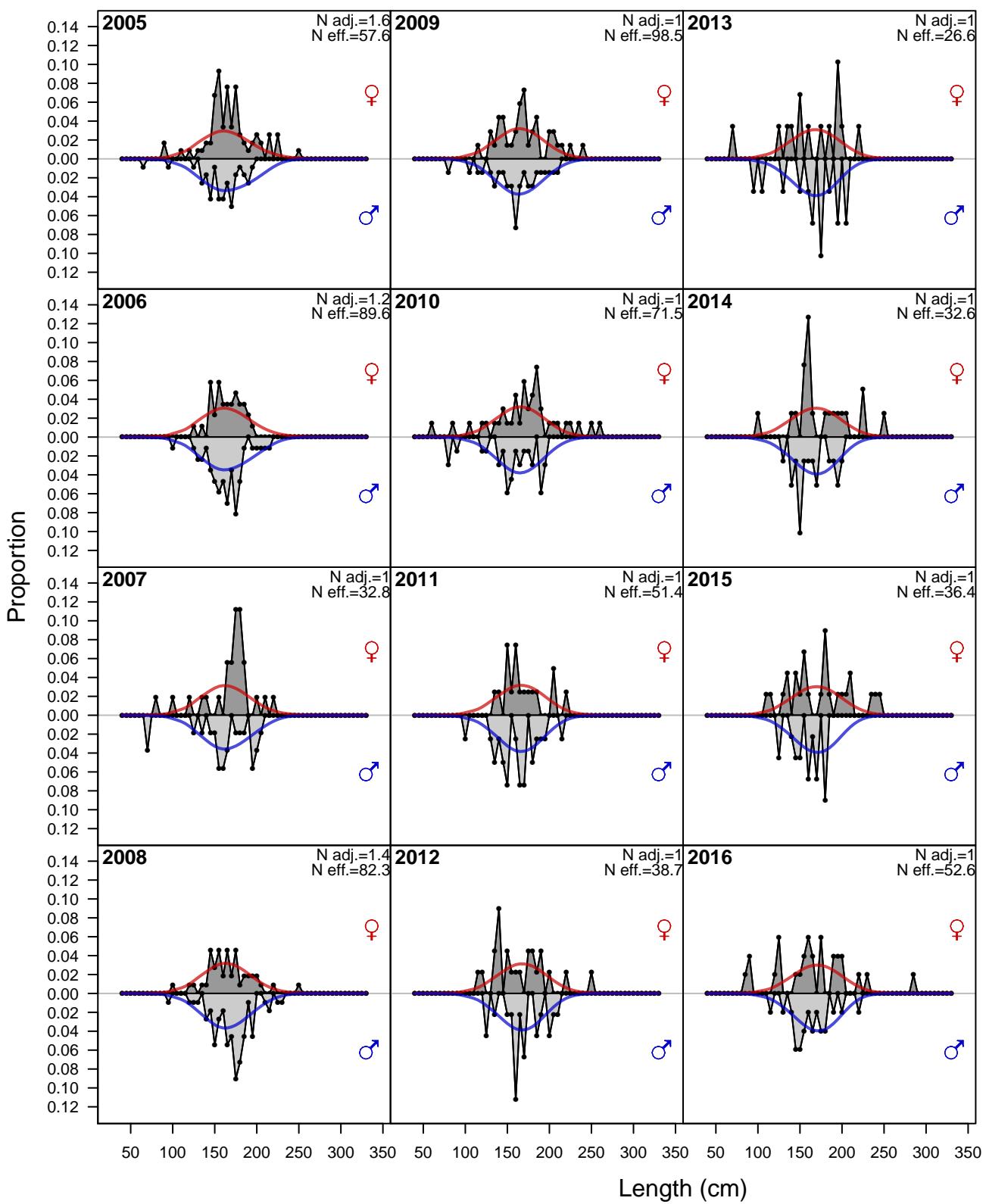


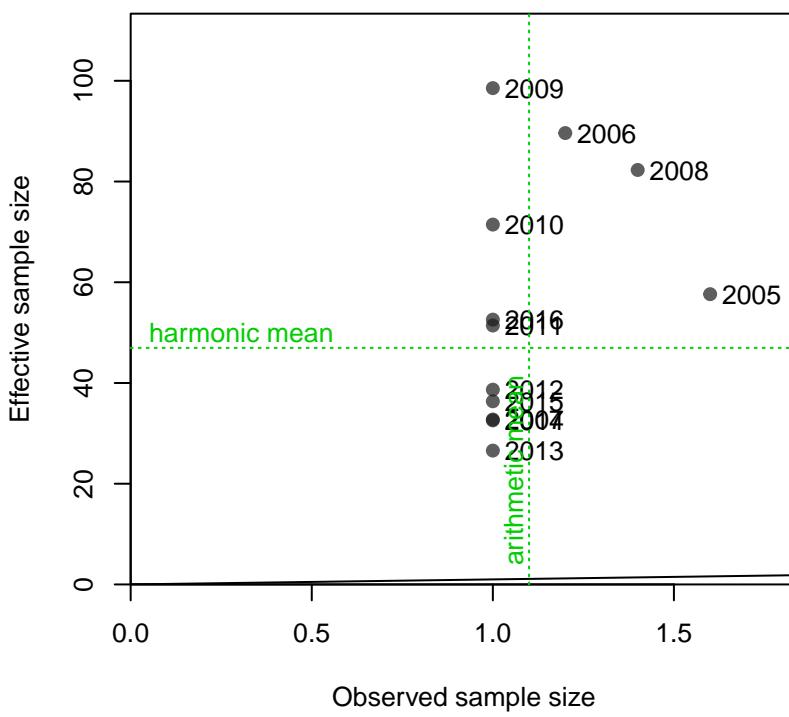
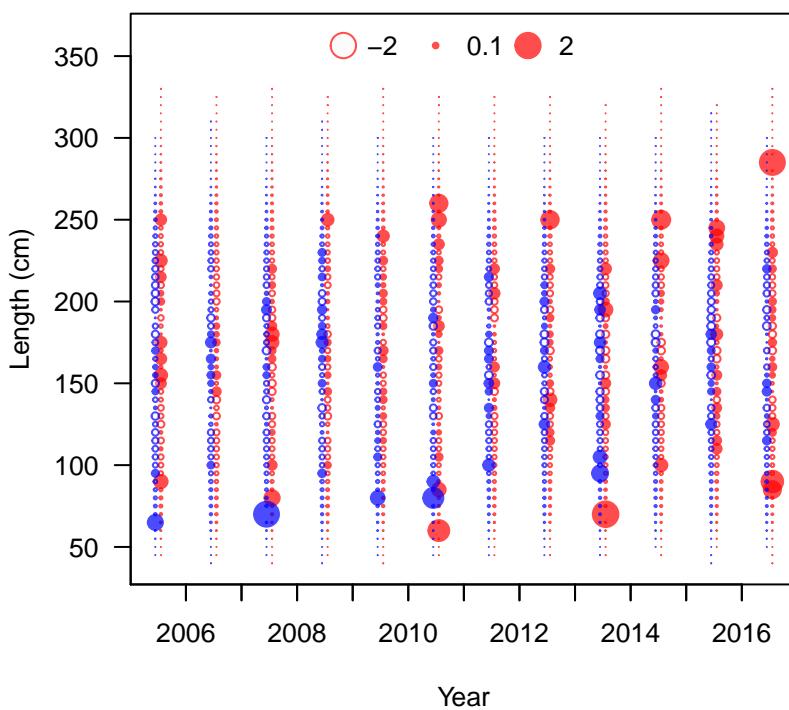




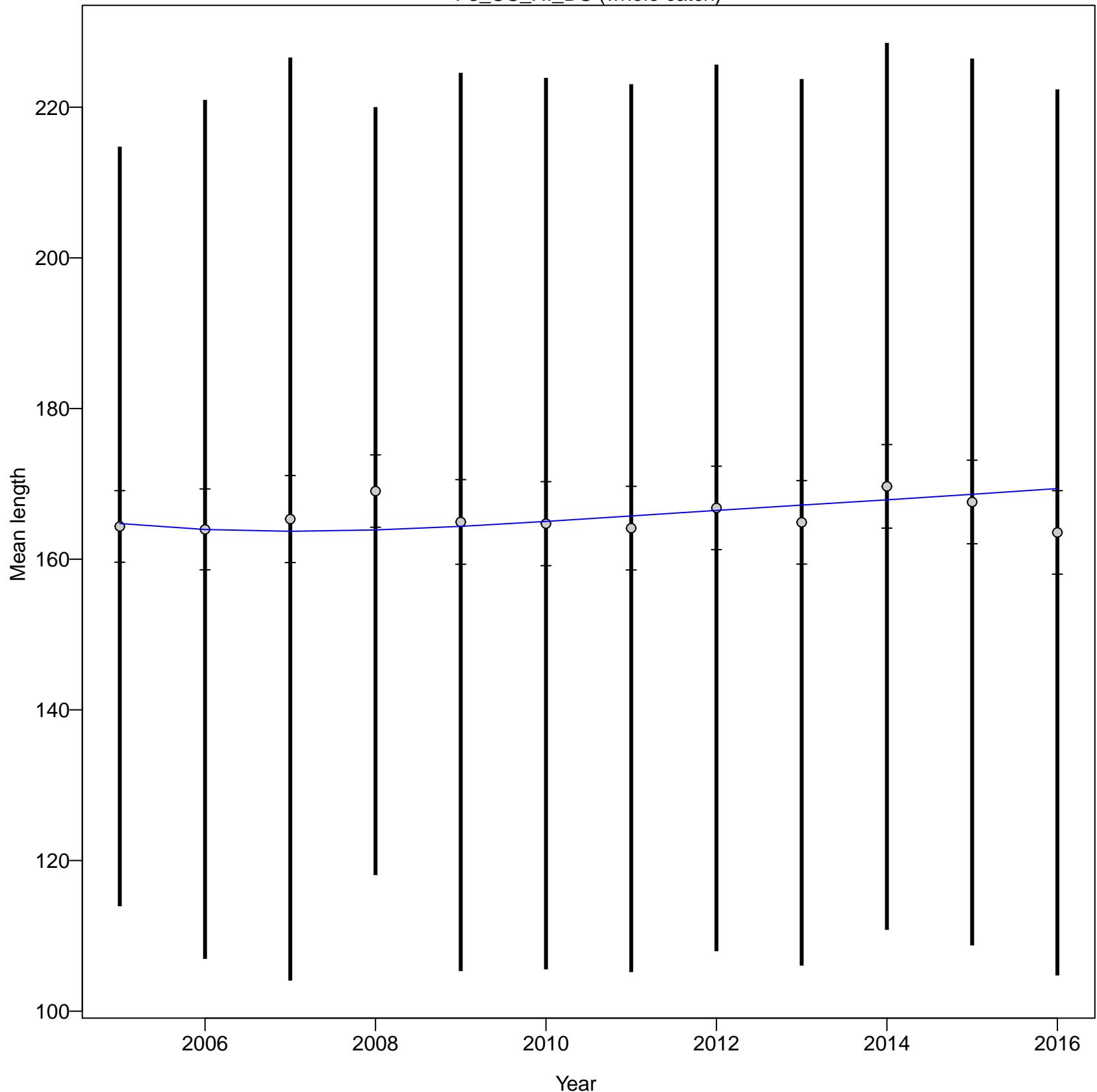
F2\_US\_HI\_SS (whole catch)

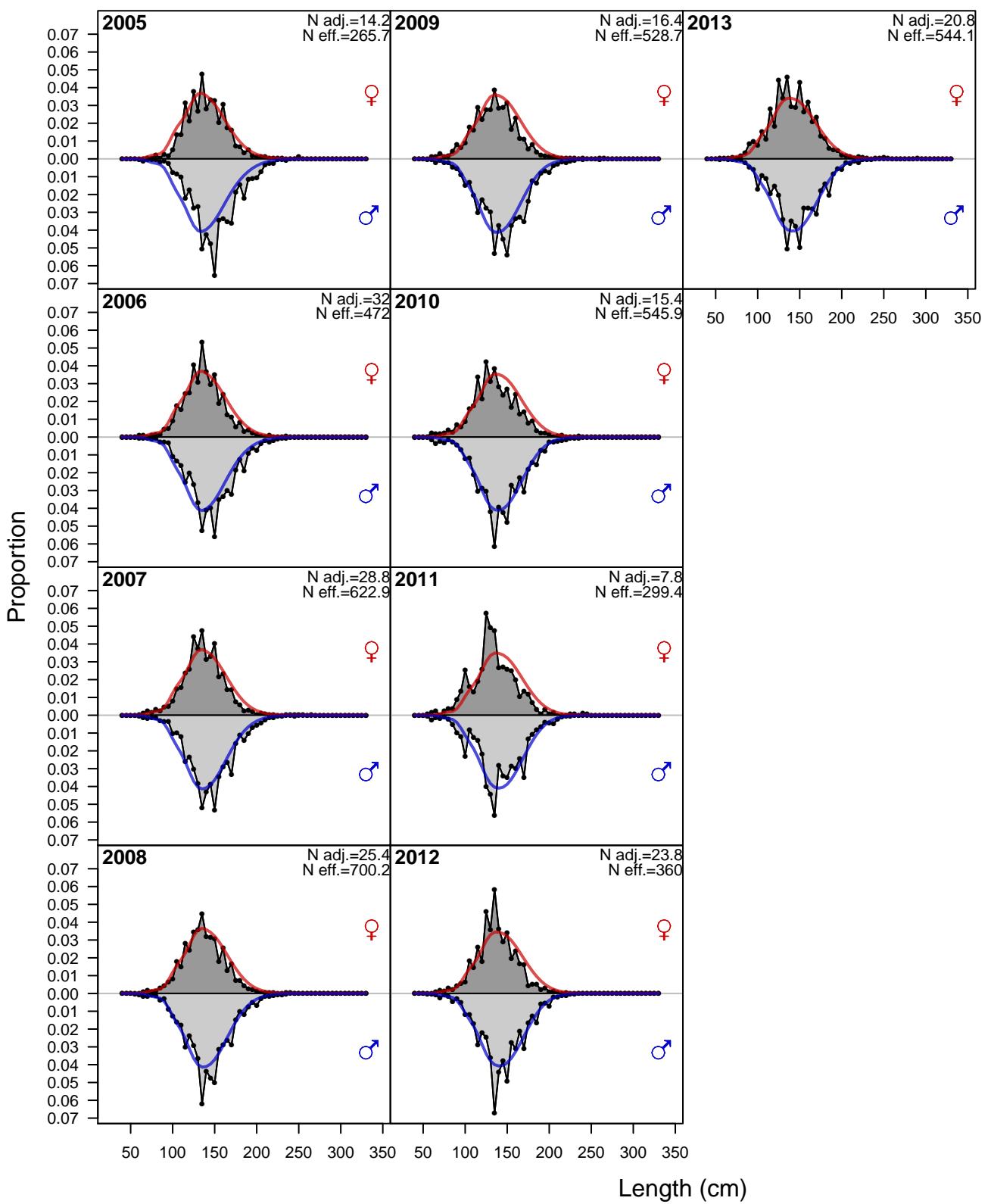


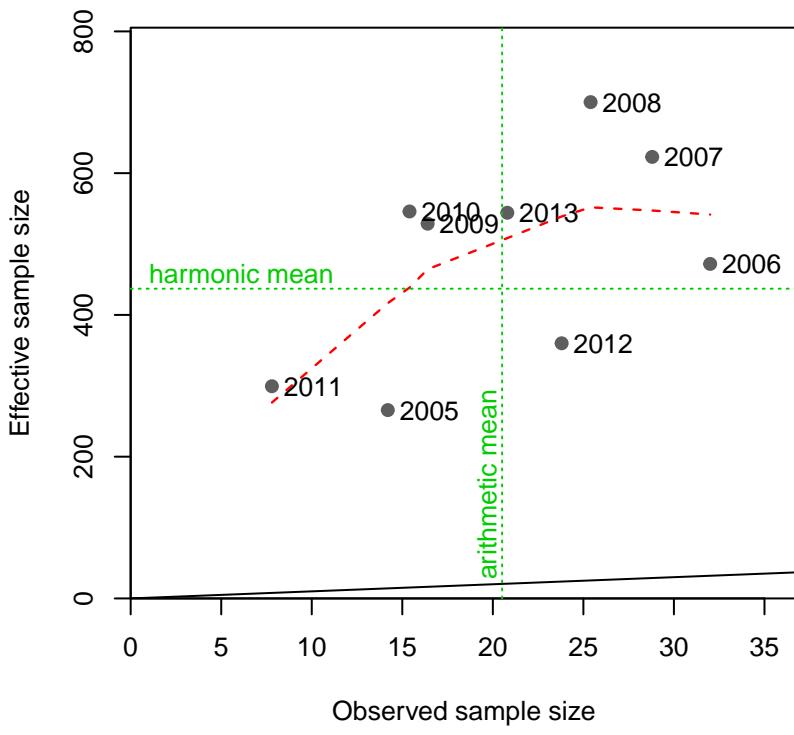
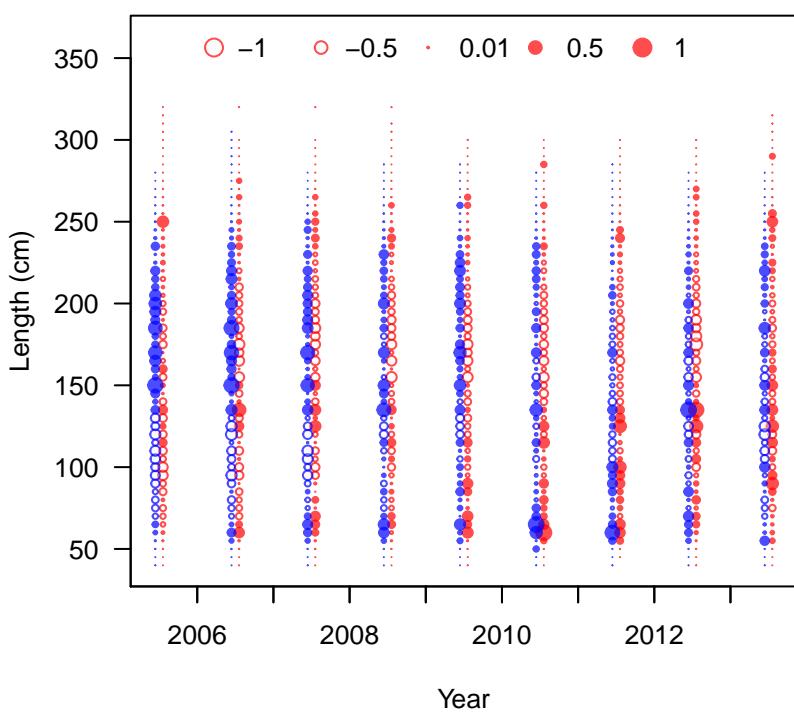




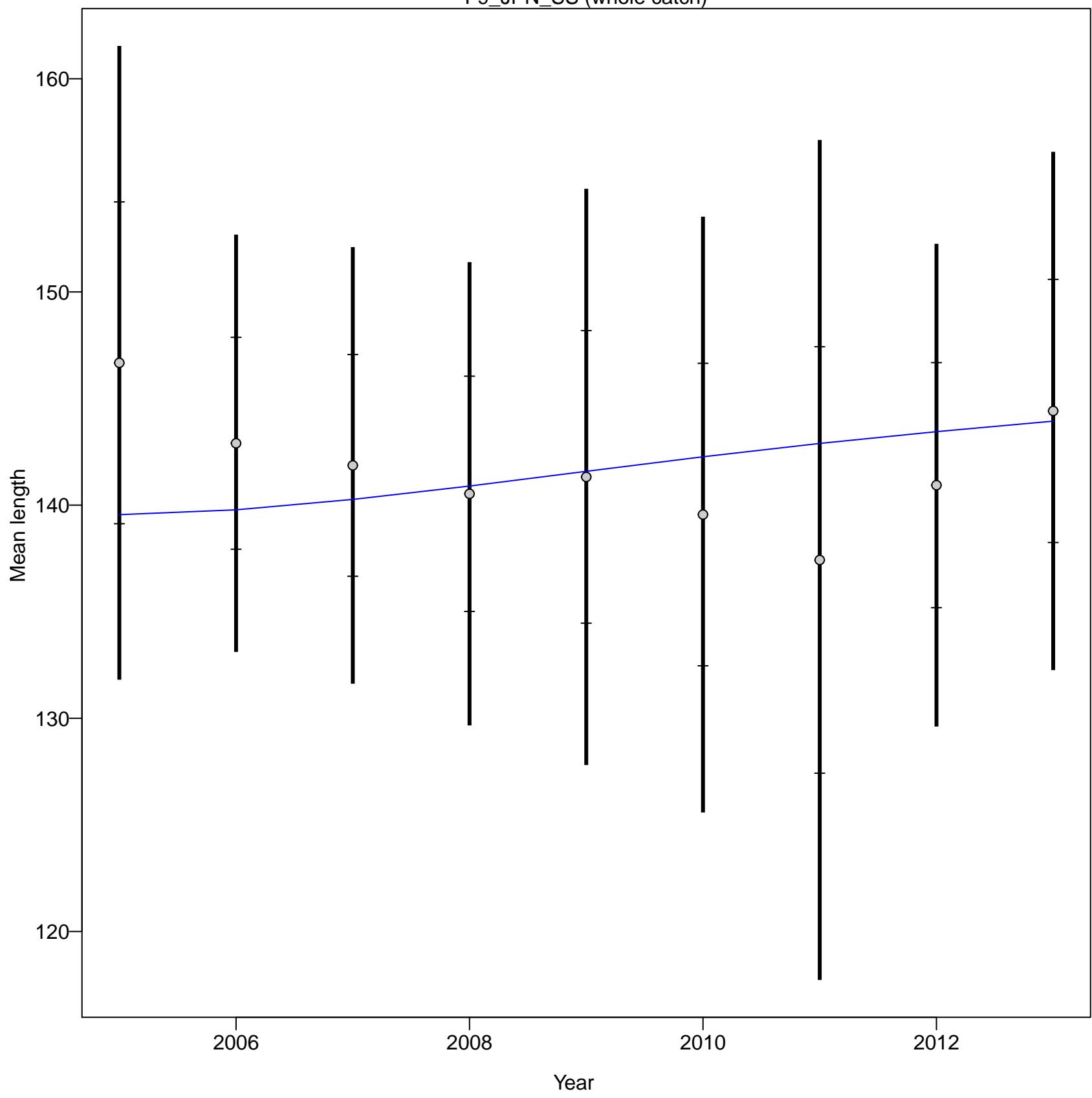
F3\_US\_HI\_DS (whole catch)

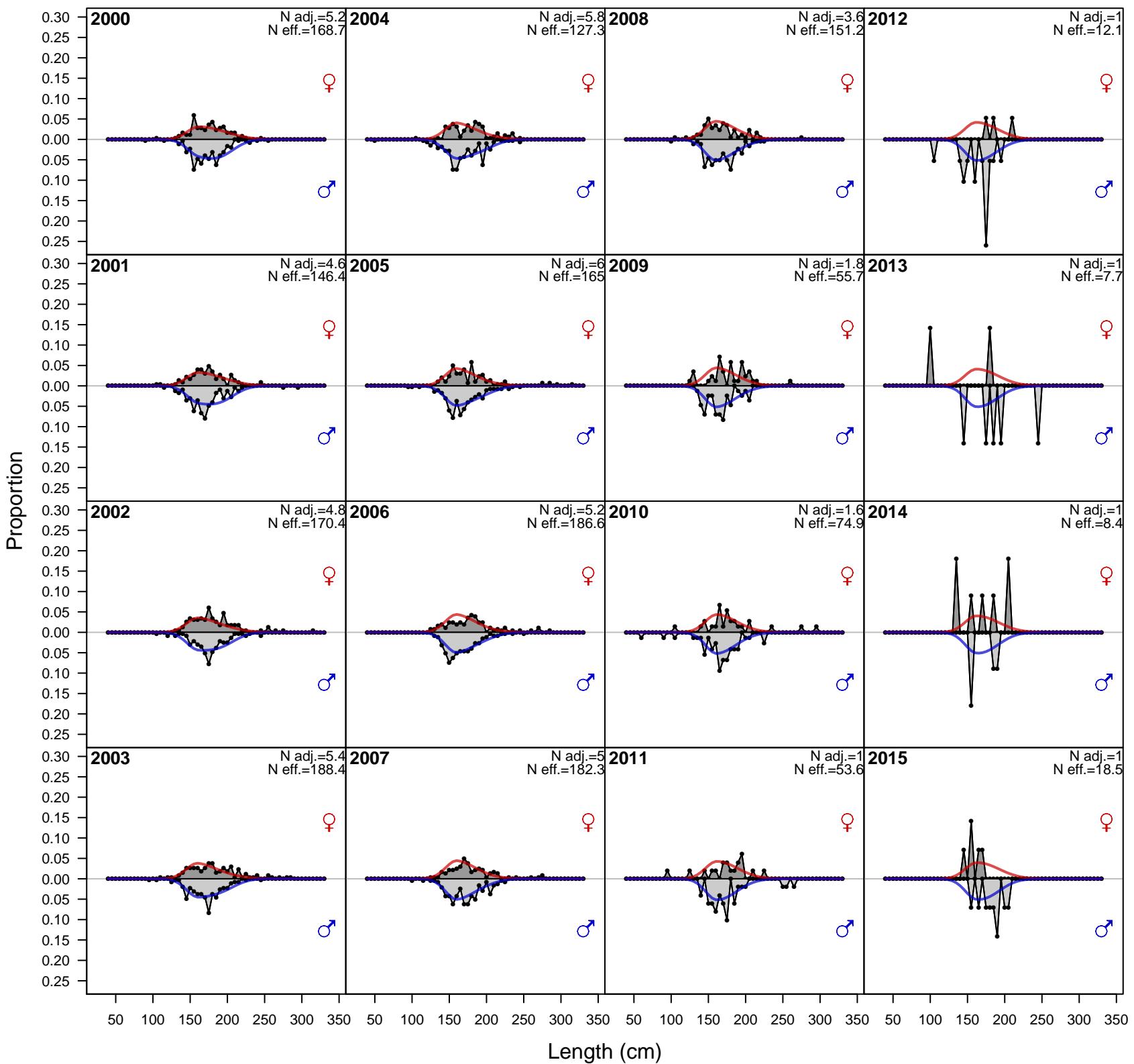




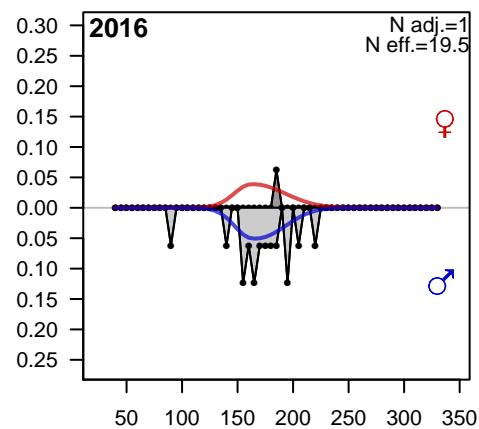


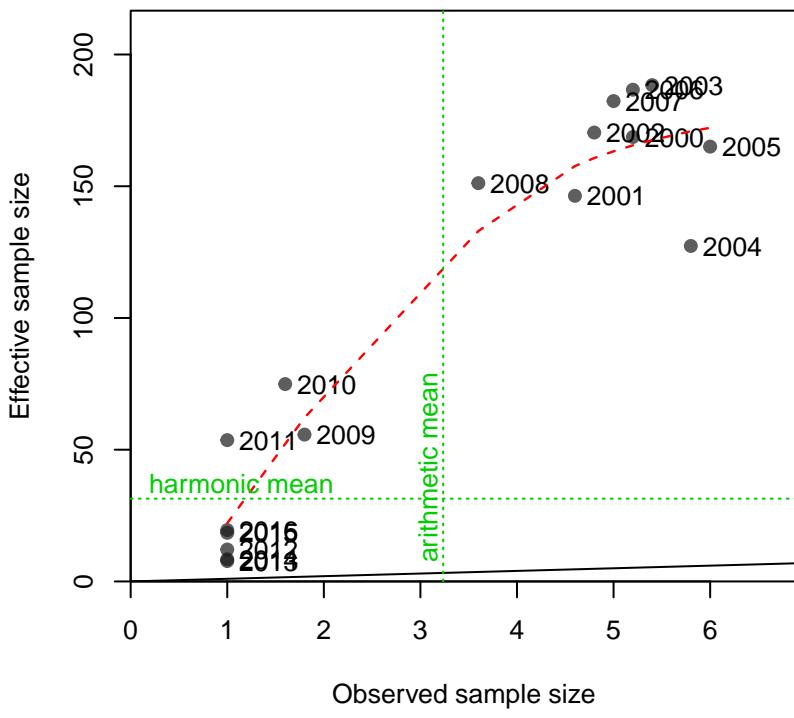
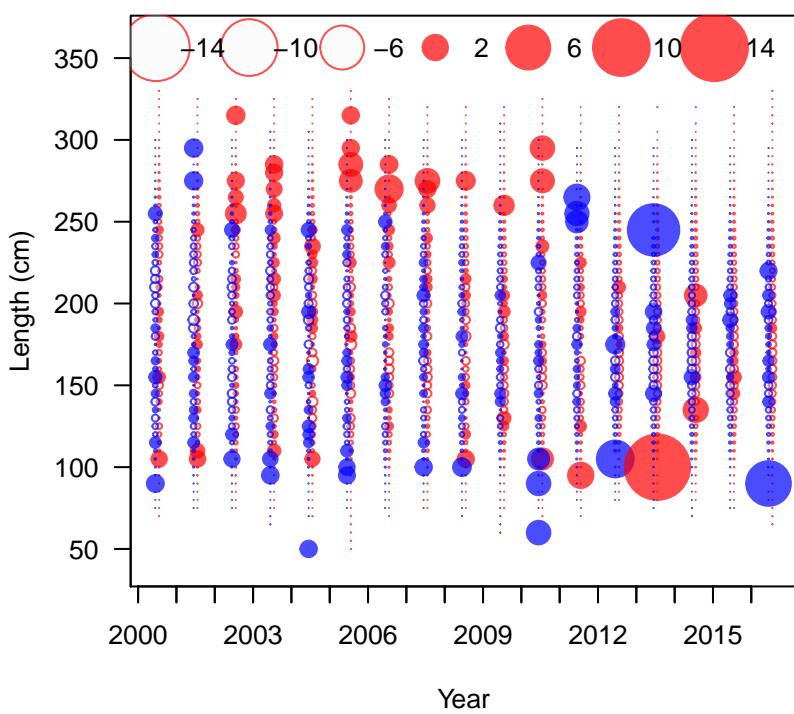
# F9\_JPN\_SS (whole catch)



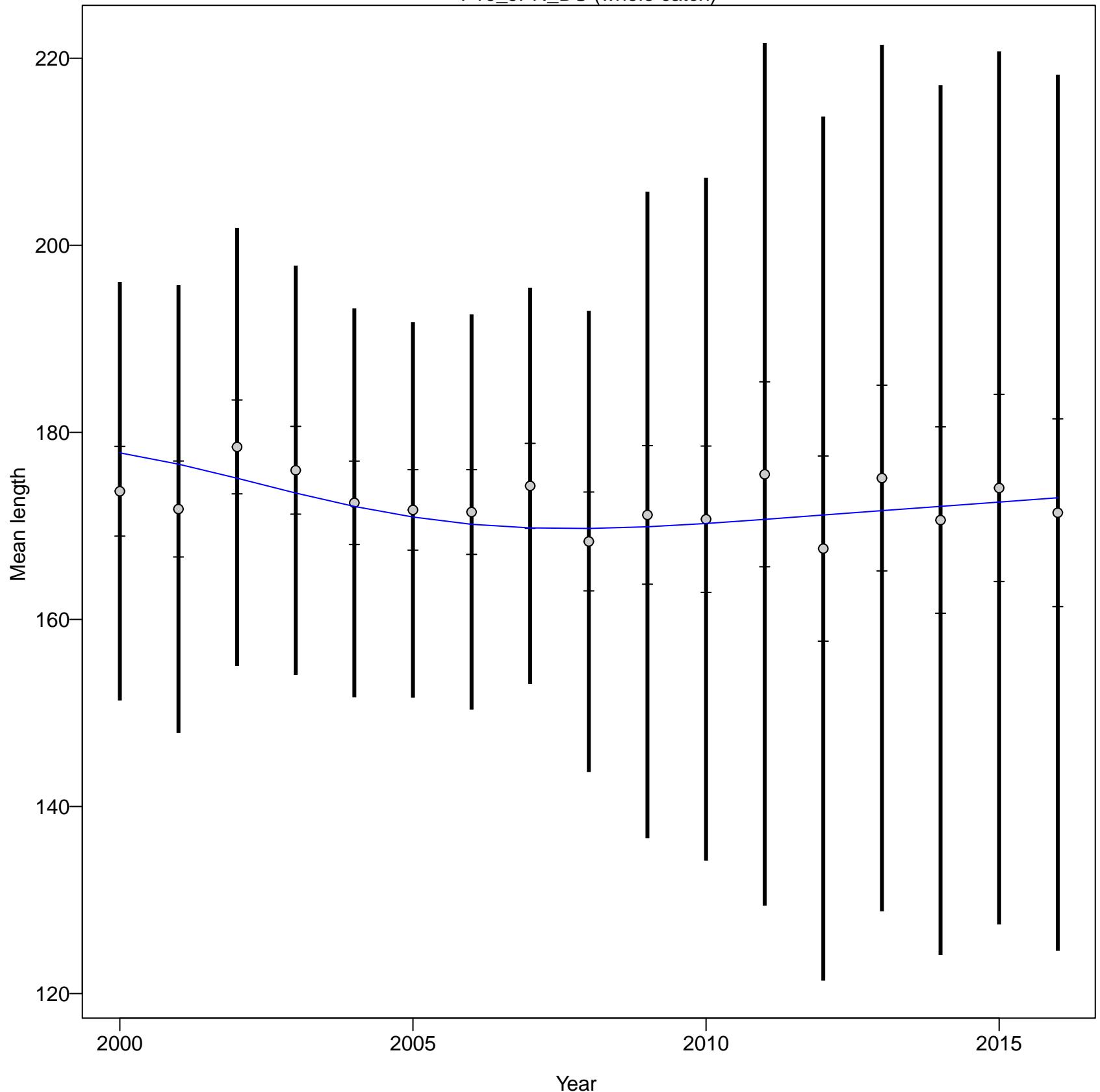


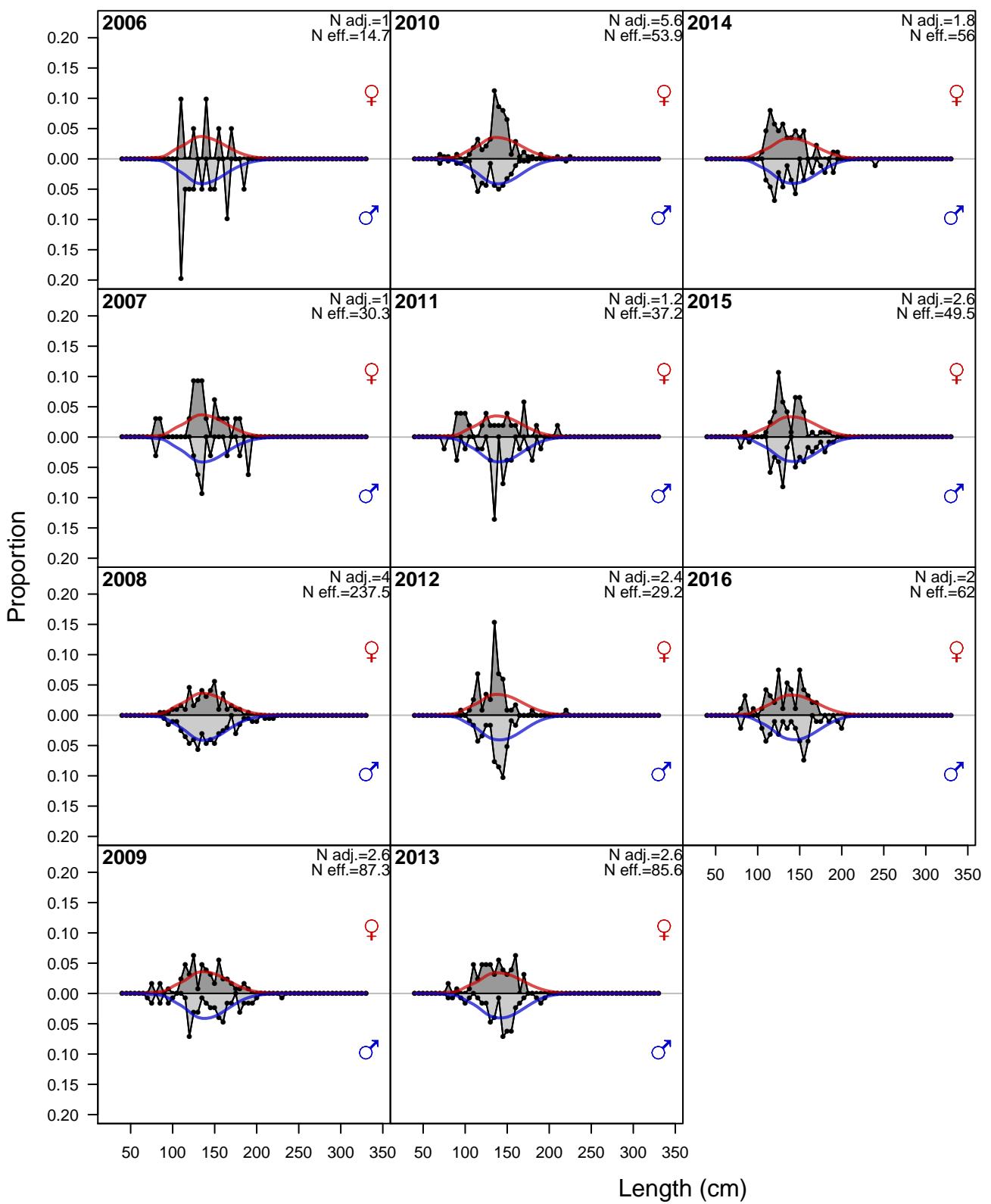
Proportion

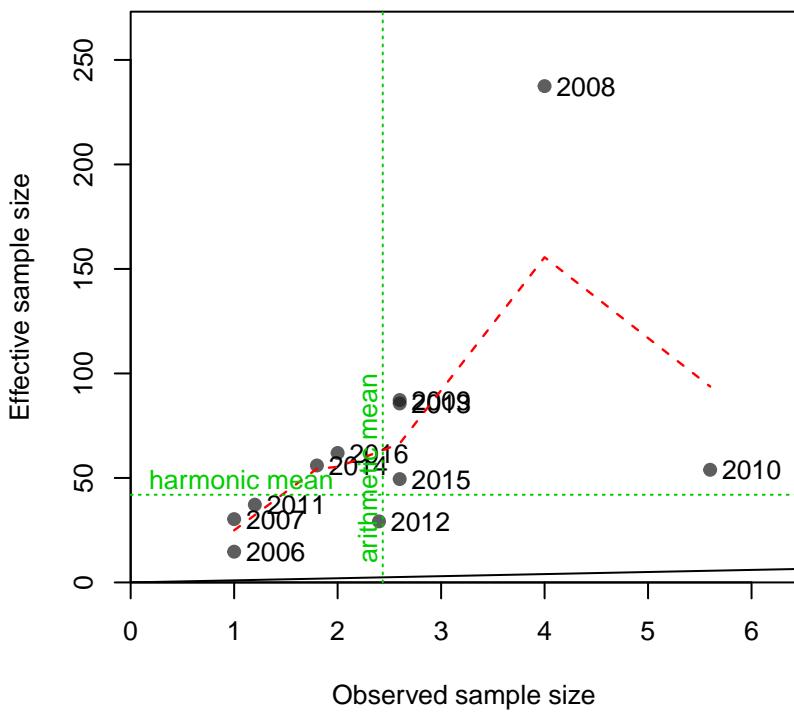
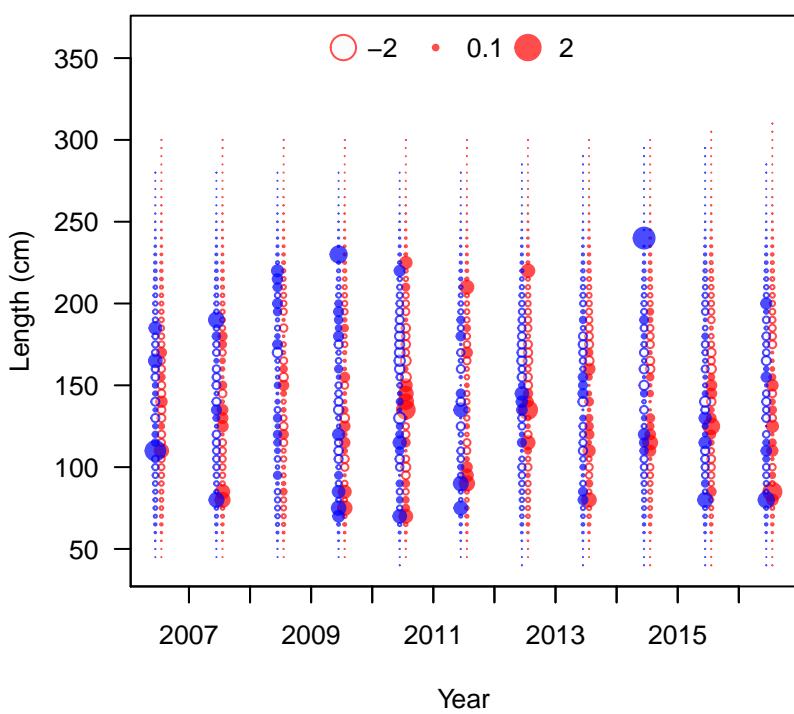




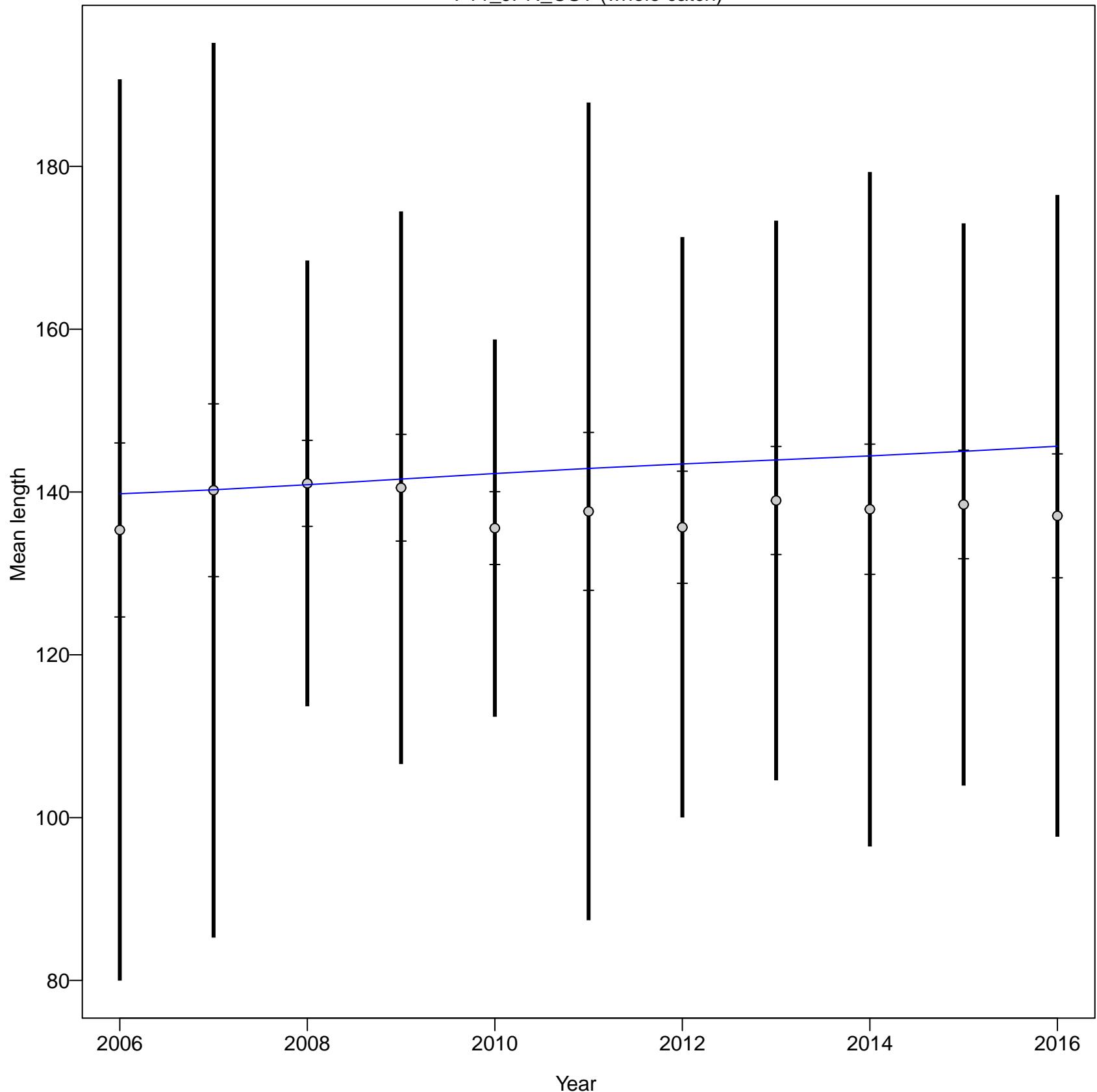
F10\_JPN\_DS (whole catch)

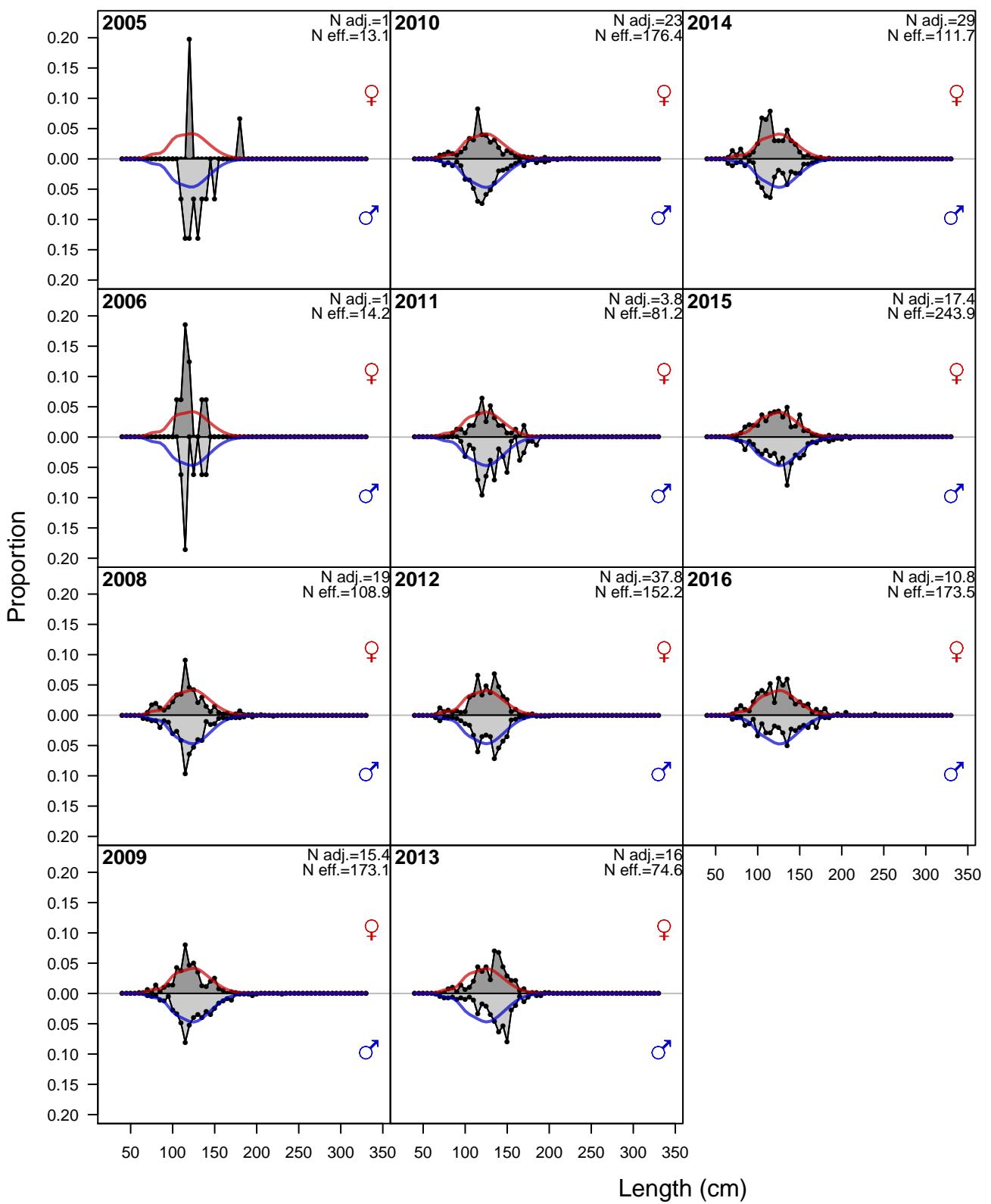


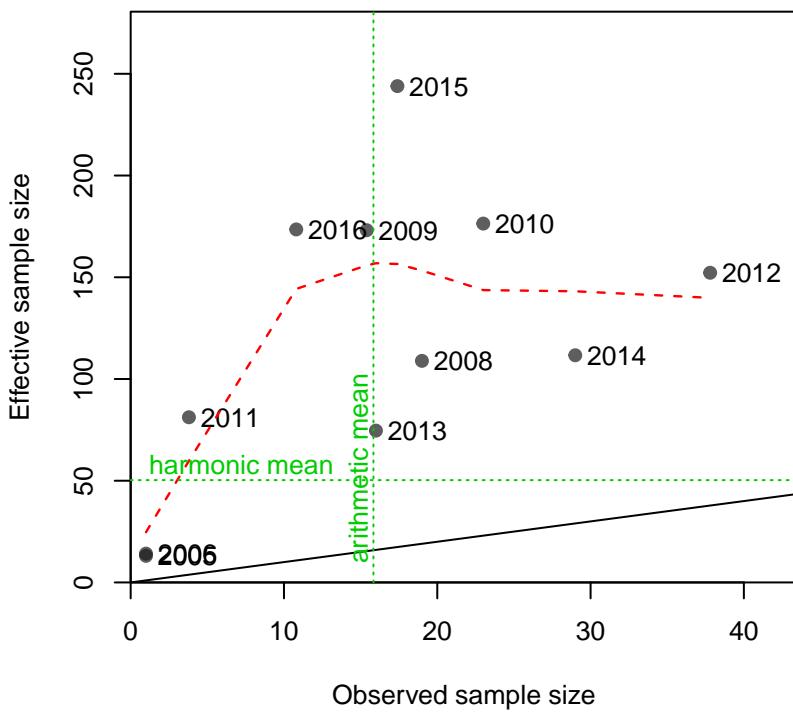
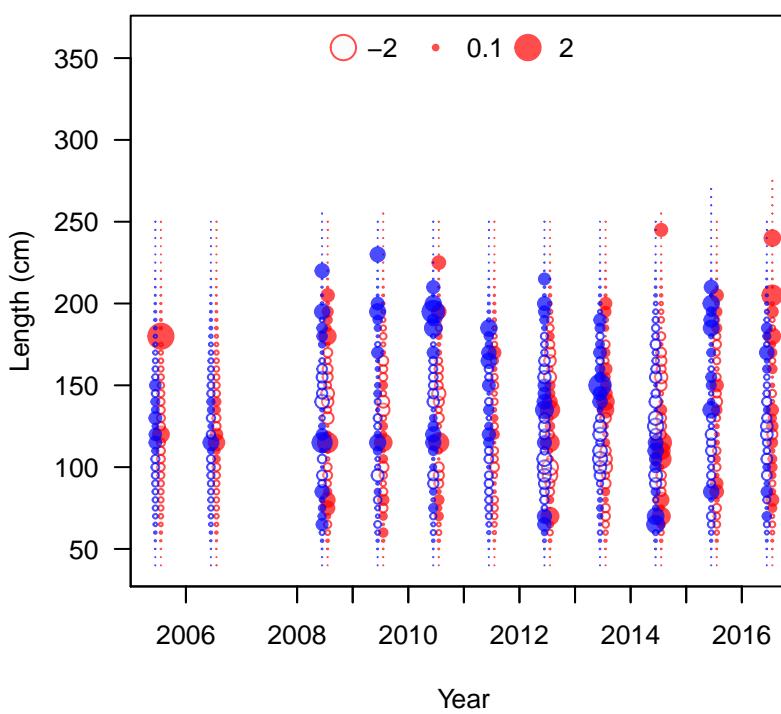




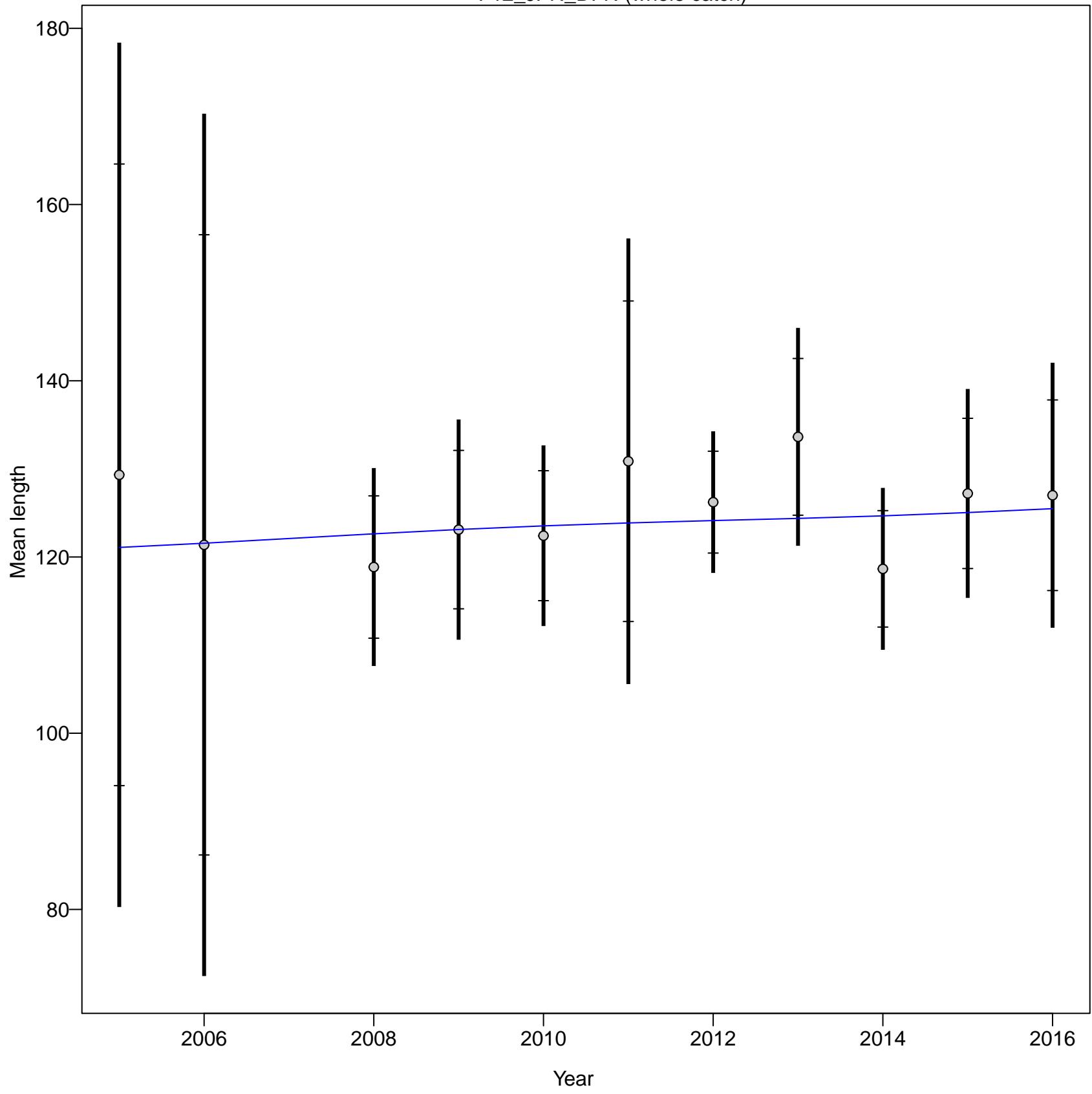
F11\_JPN\_CST (whole catch)

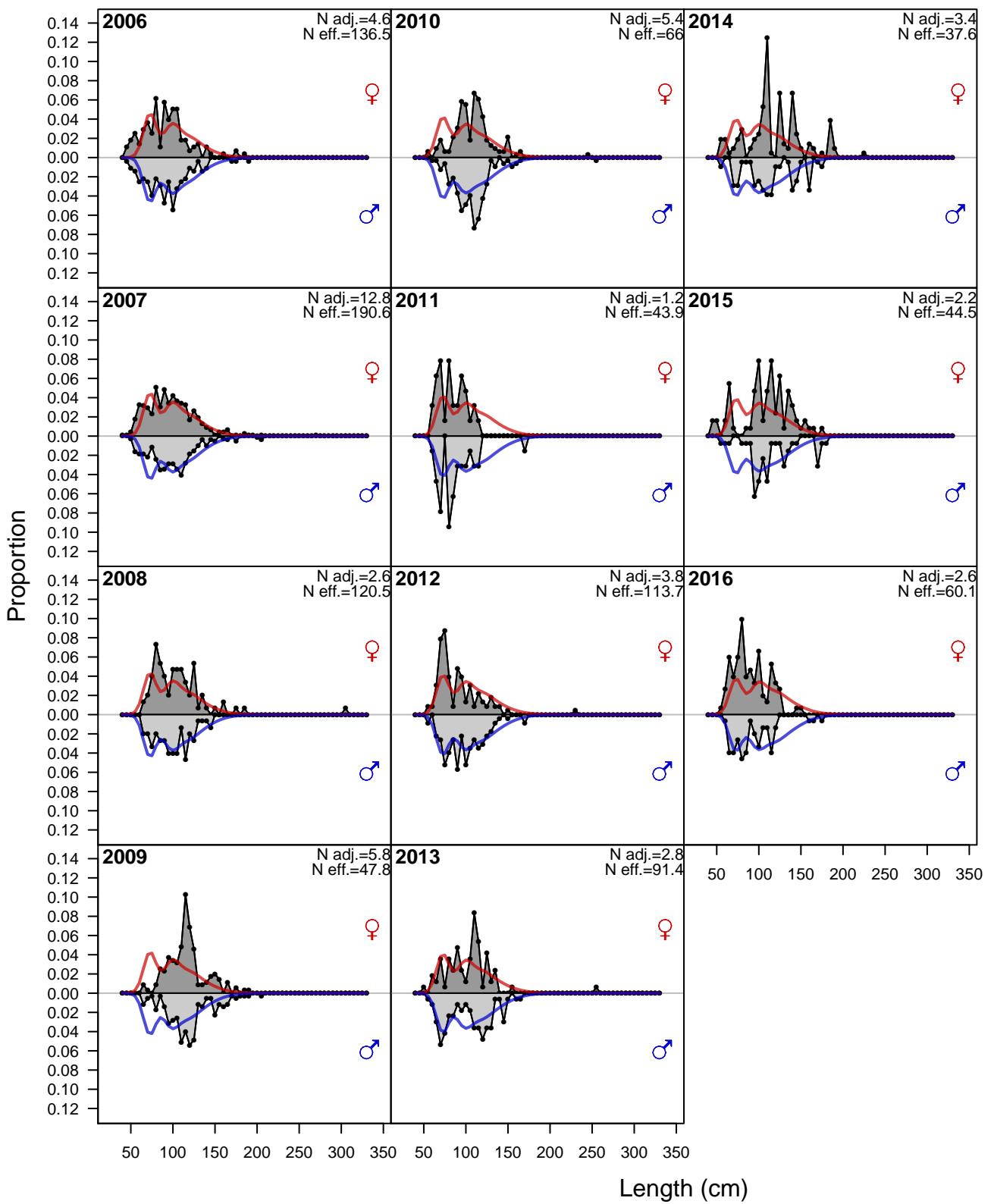


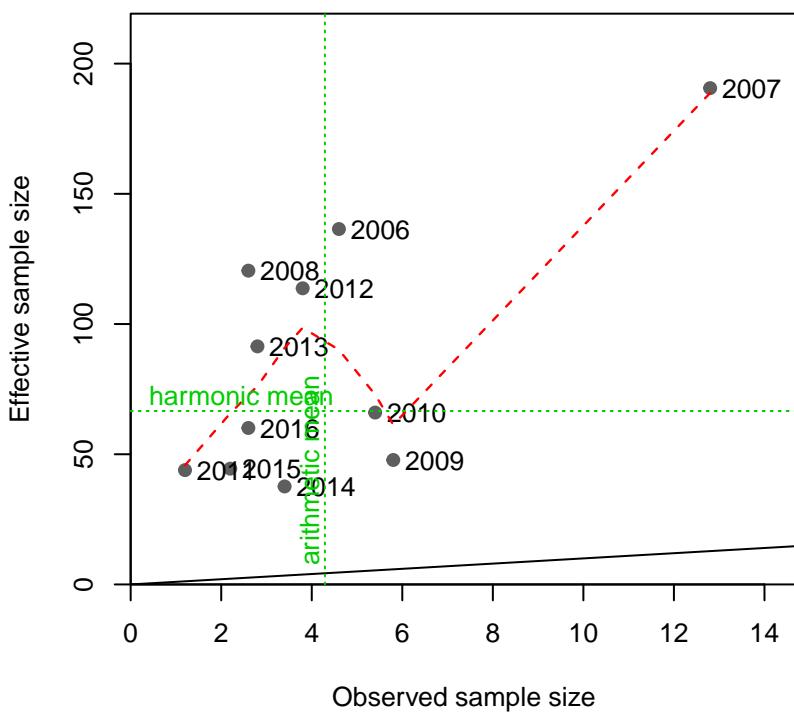
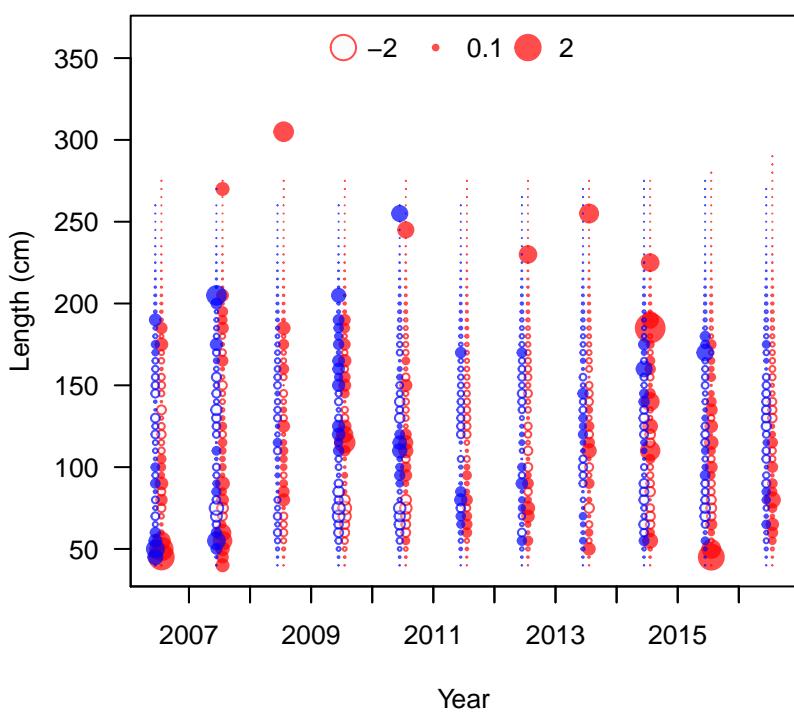




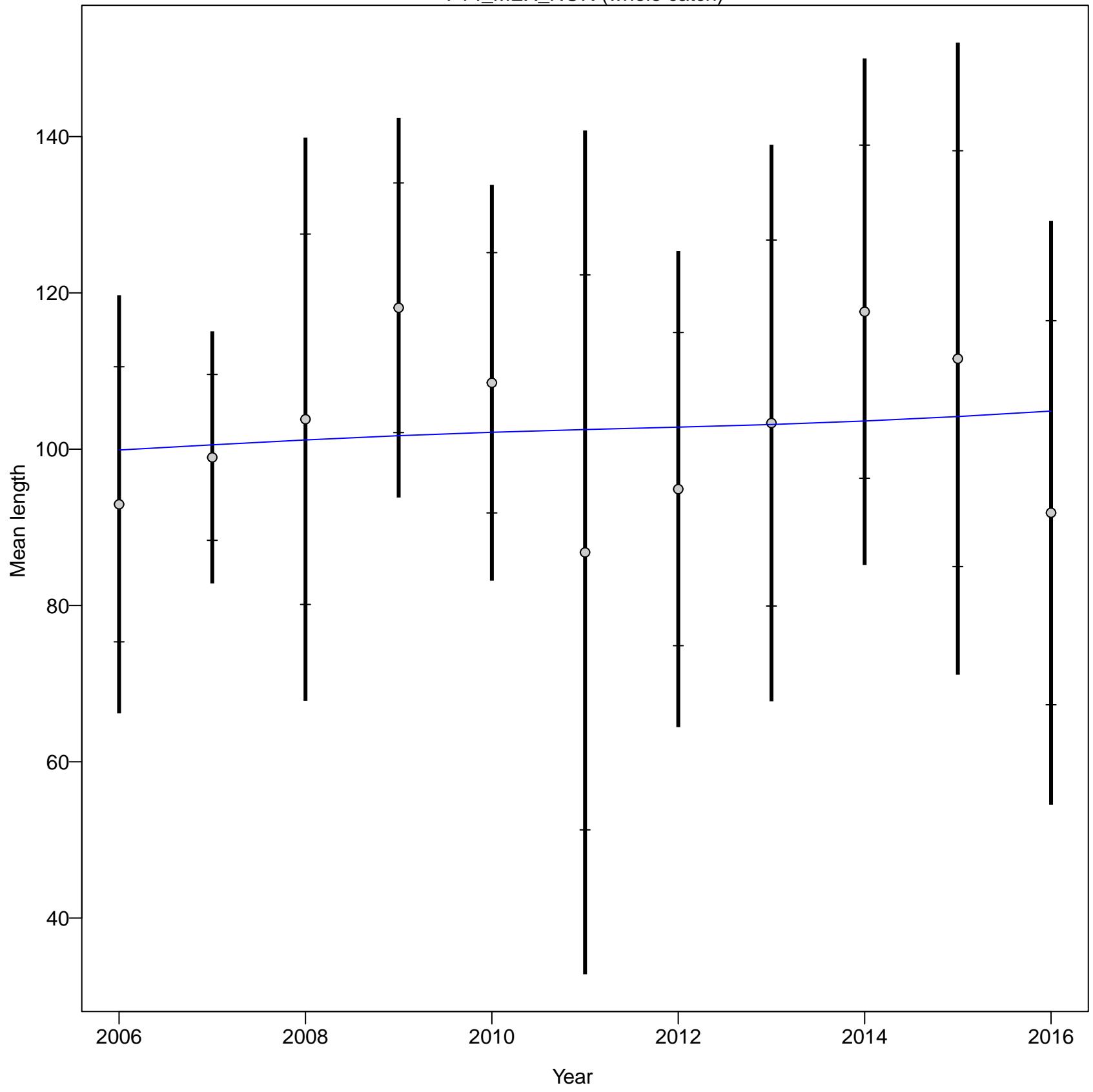
### F12\_JPN\_DFN (whole catch)

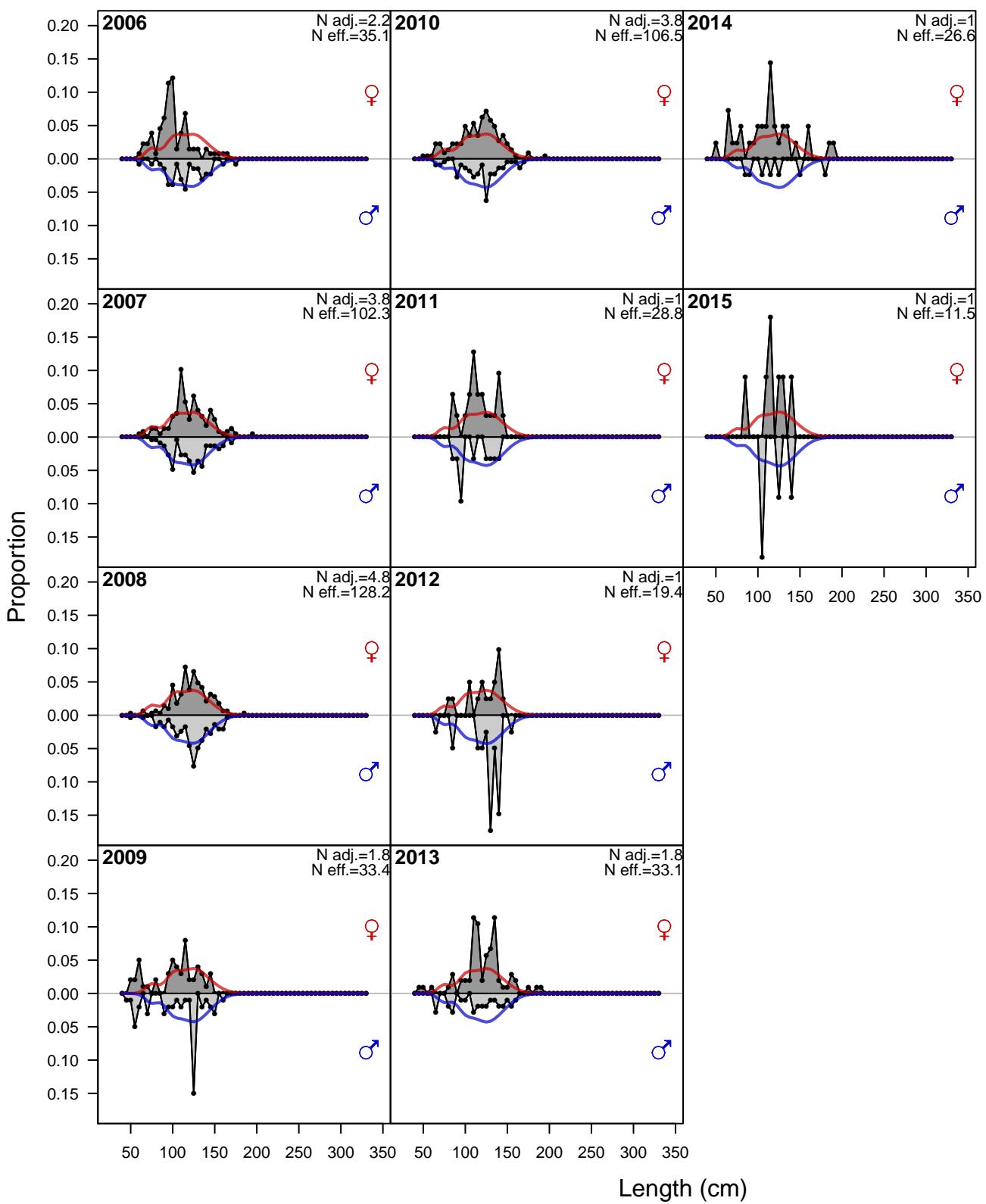


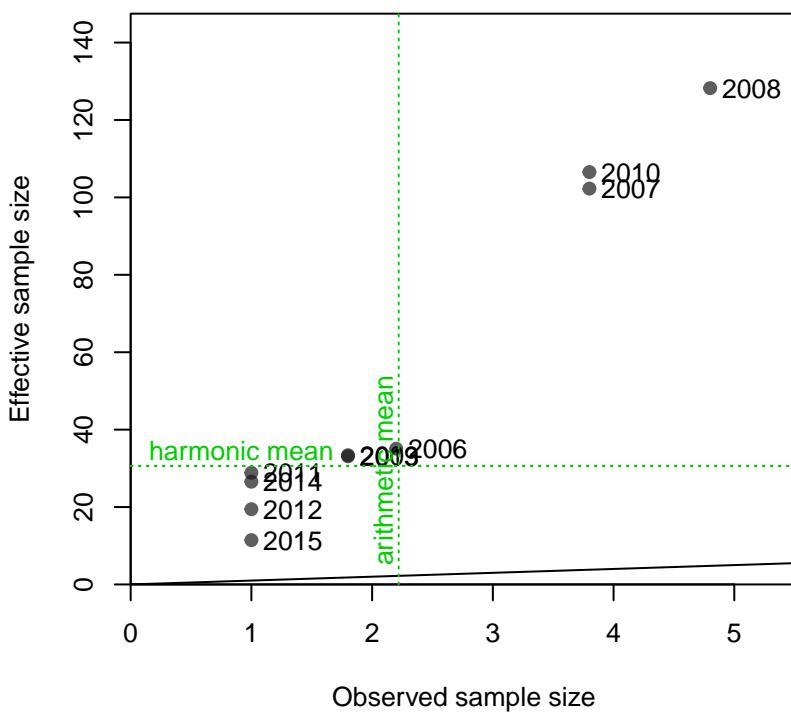
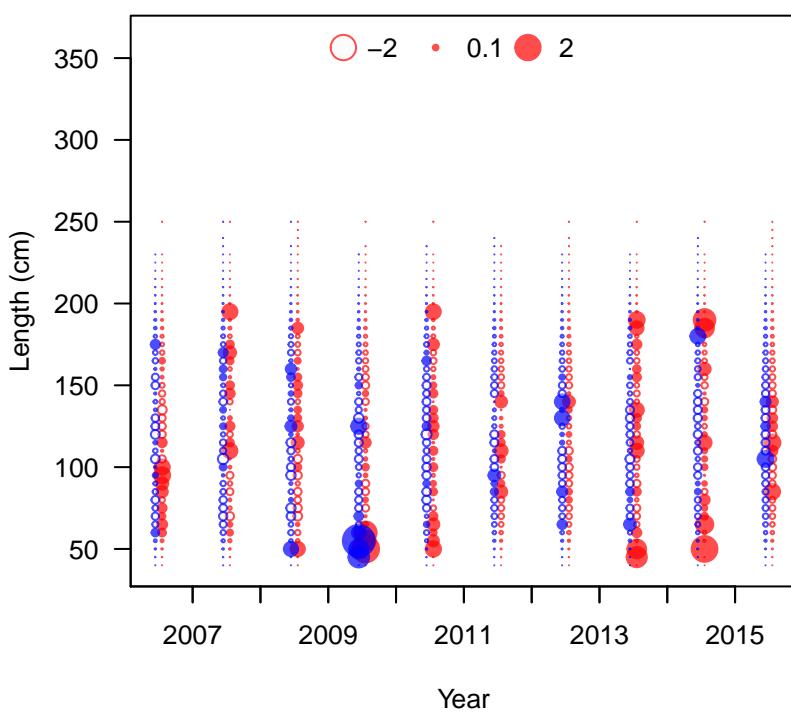




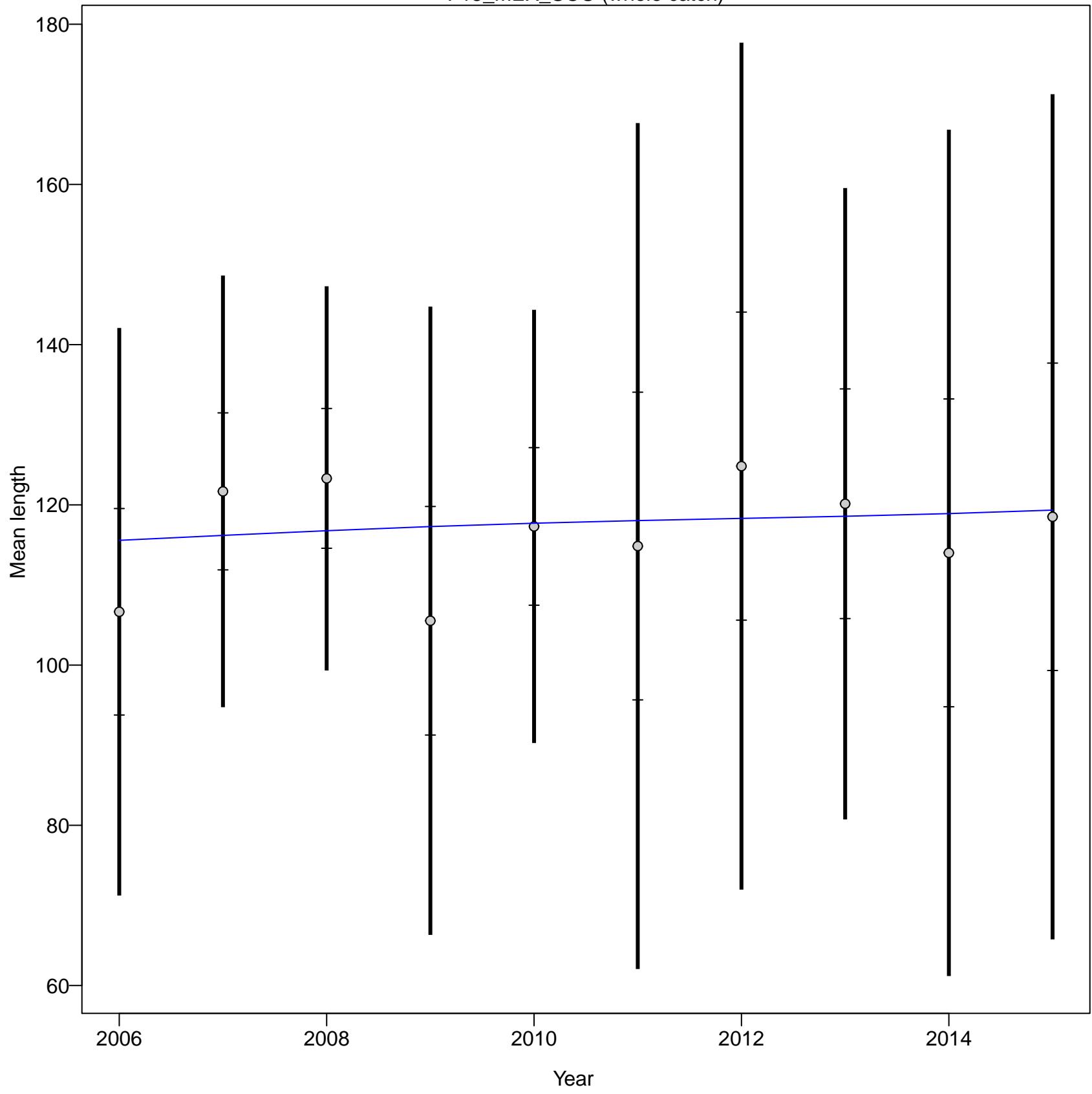
F14\_MEX\_NOR (whole catch)

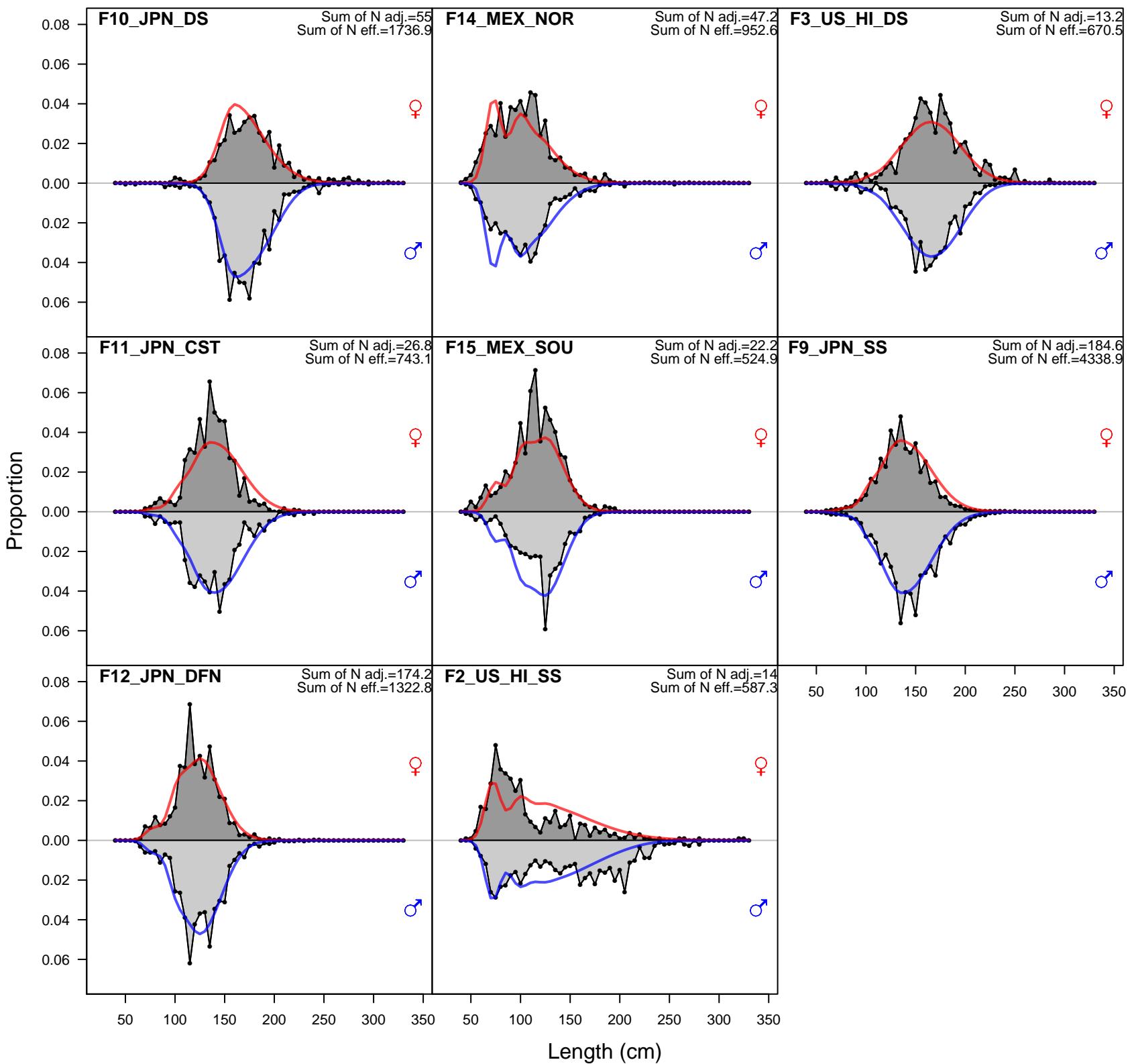






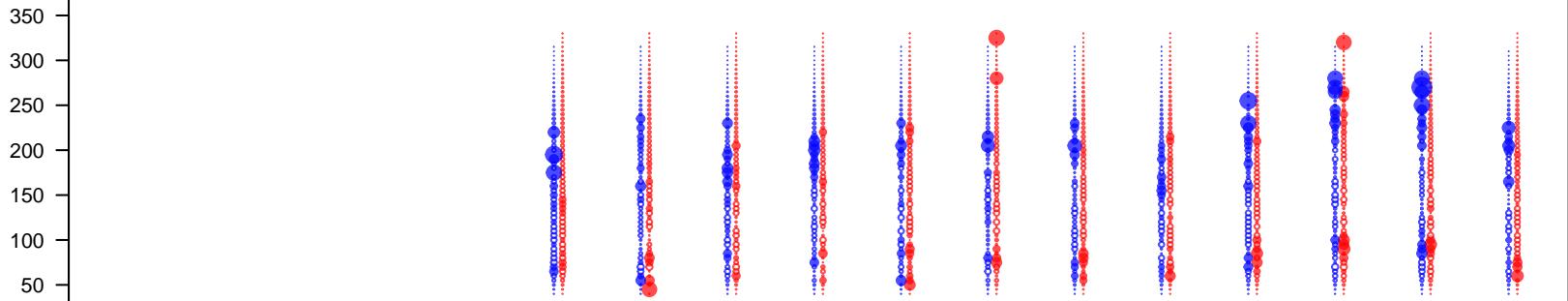
# F15\_MEX\_SOU (whole catch)





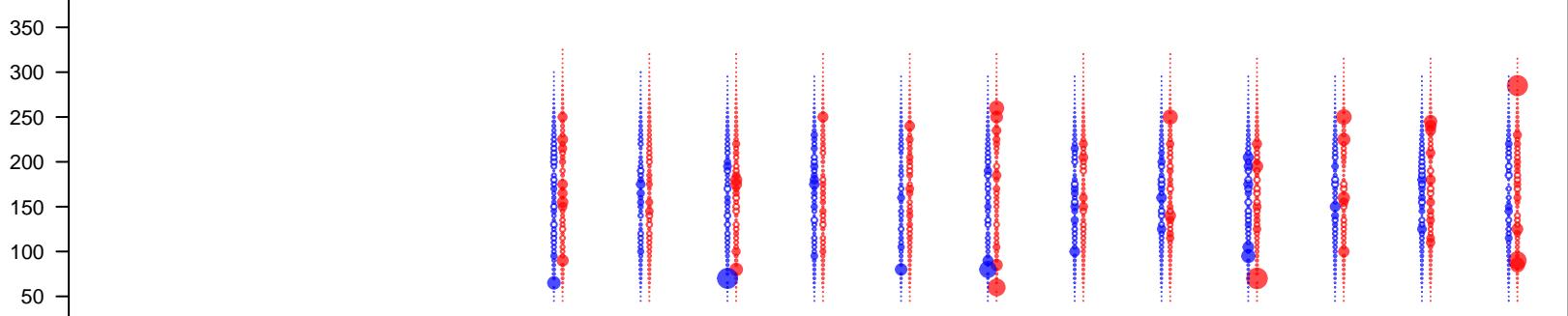
F2\_US\_HI\_SS

○ -2 ● 0.1 ■ 2

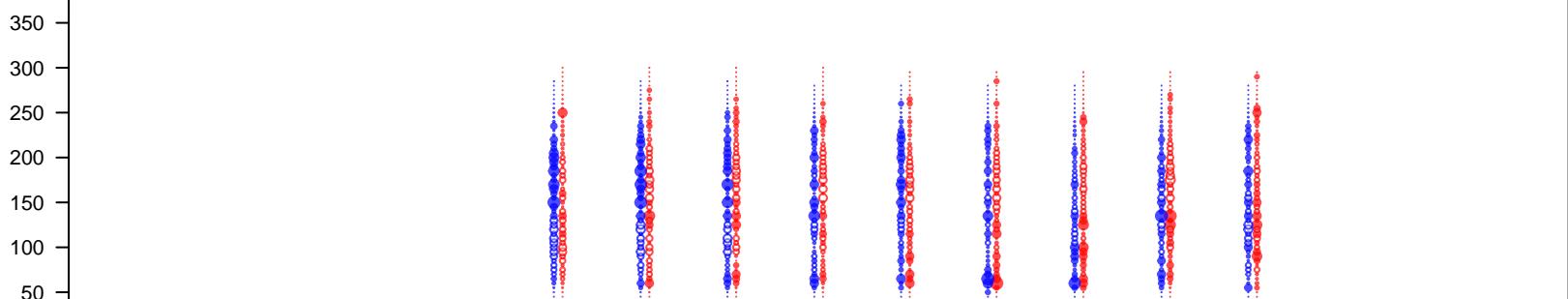


F3\_US\_HI\_DS

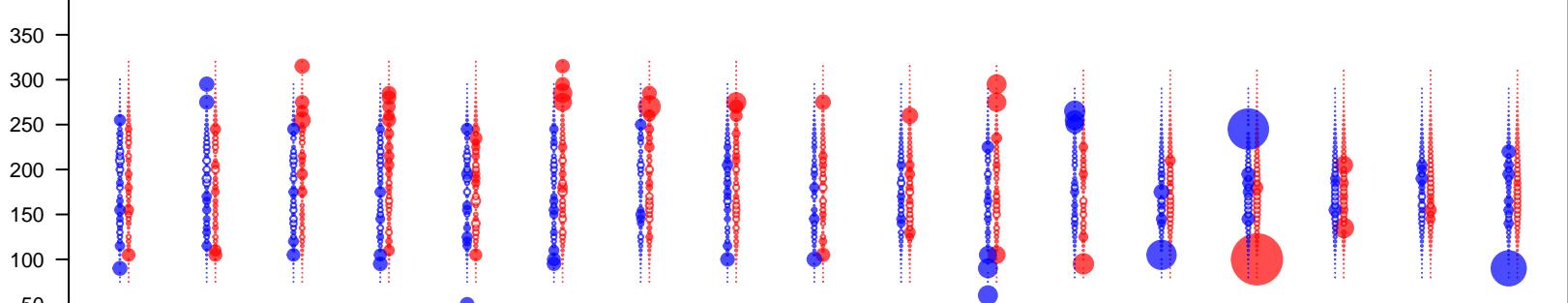
Length (cm)



F9\_JPN\_SS



F10\_JPN\_DS

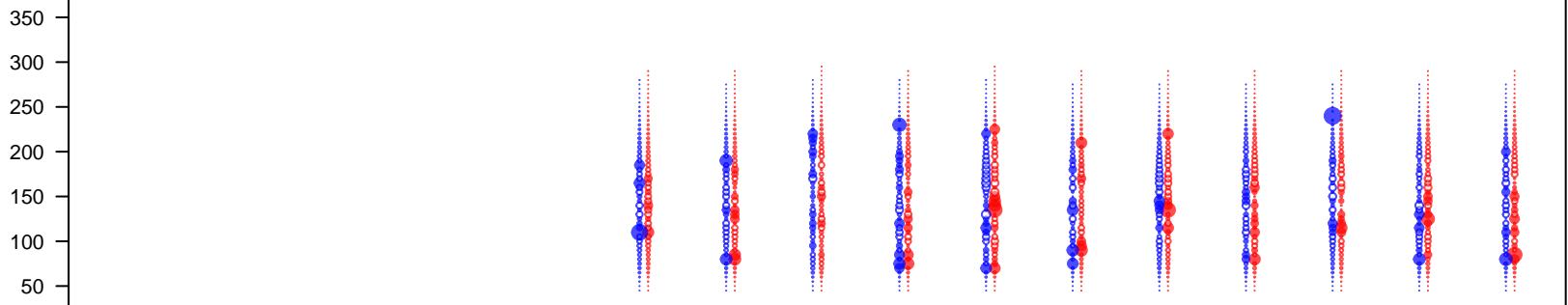


2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

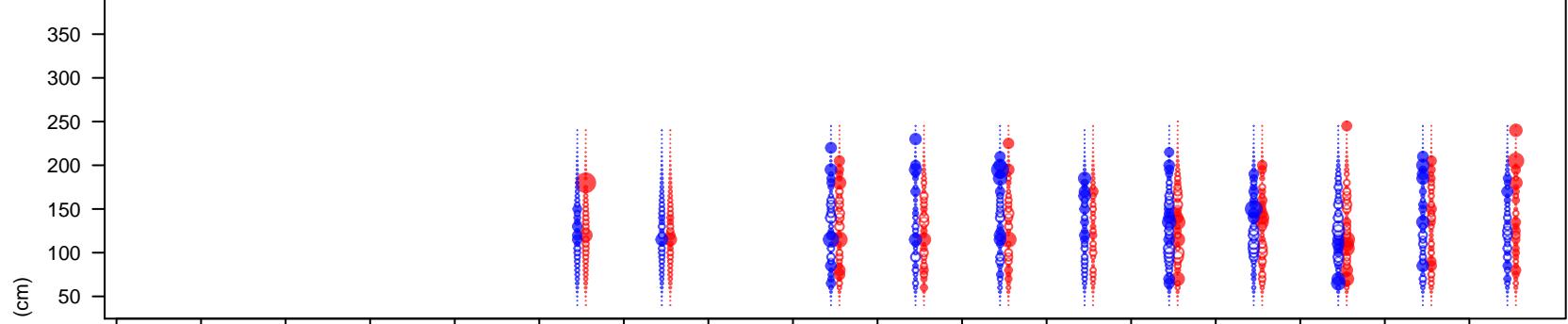
Year

F11\_JPN\_CST

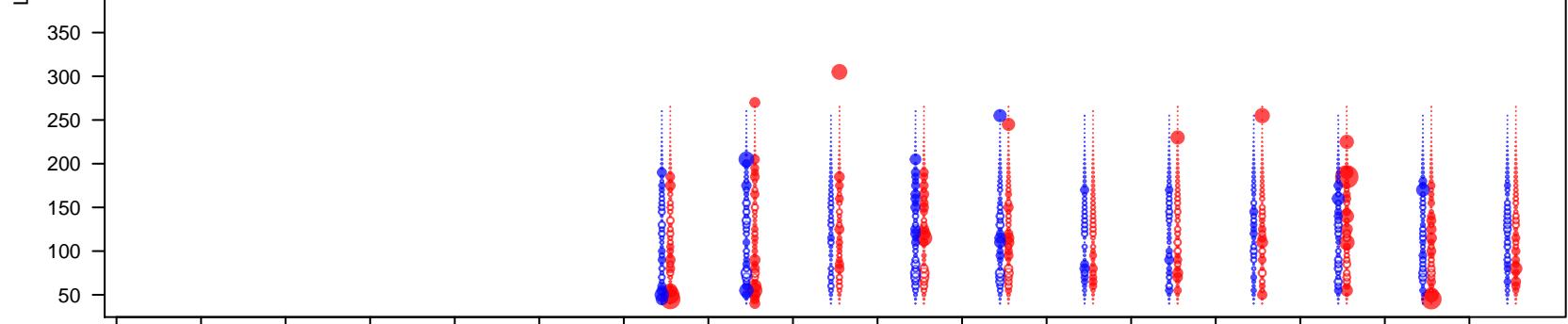
○ -2 ● 0.1 ■ 2



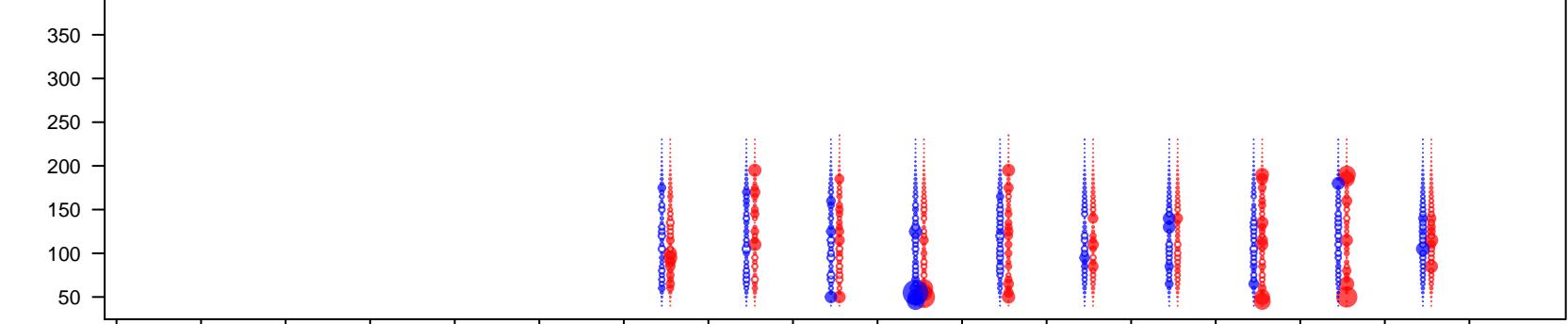
F12\_JPN\_DFN

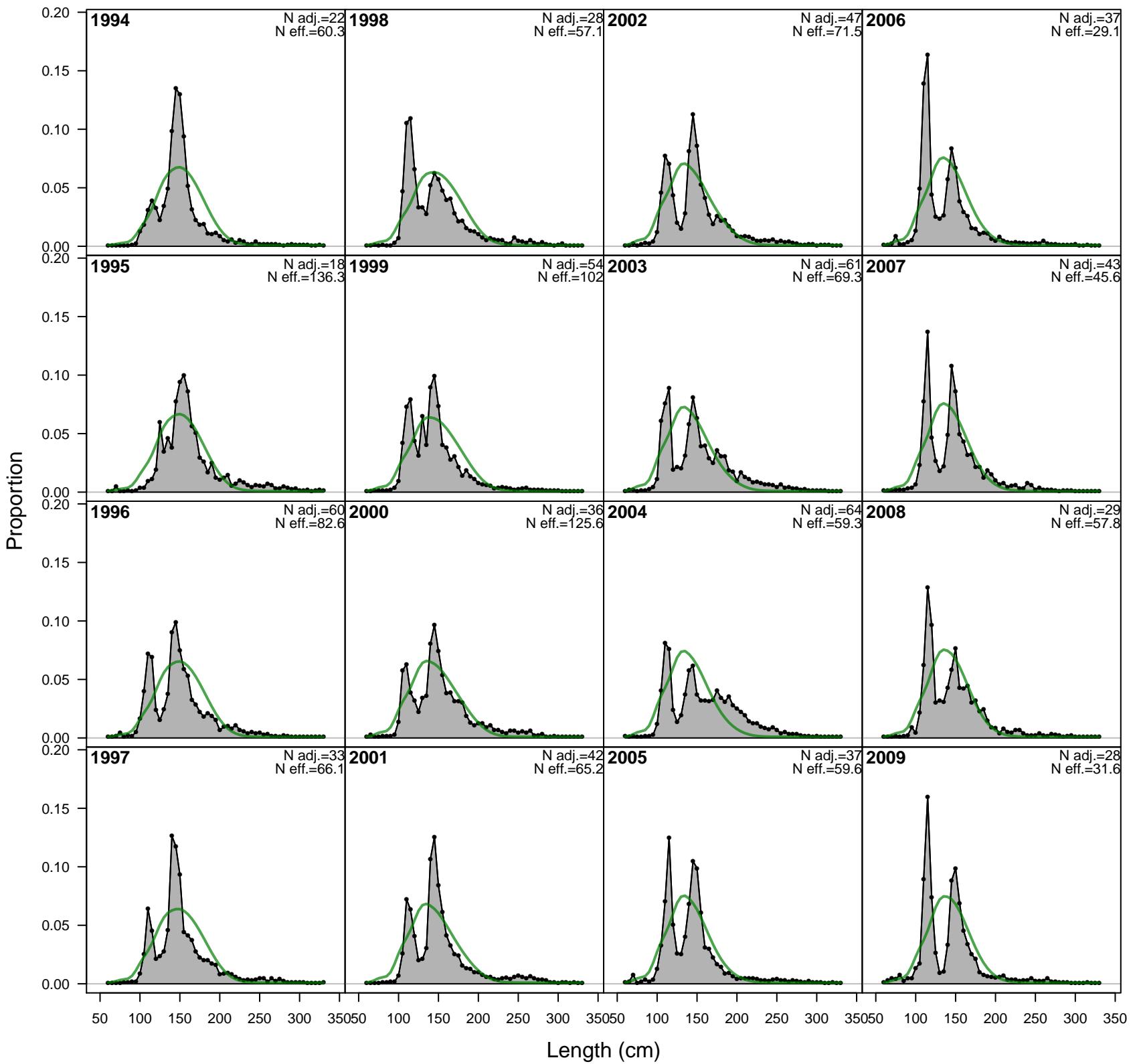


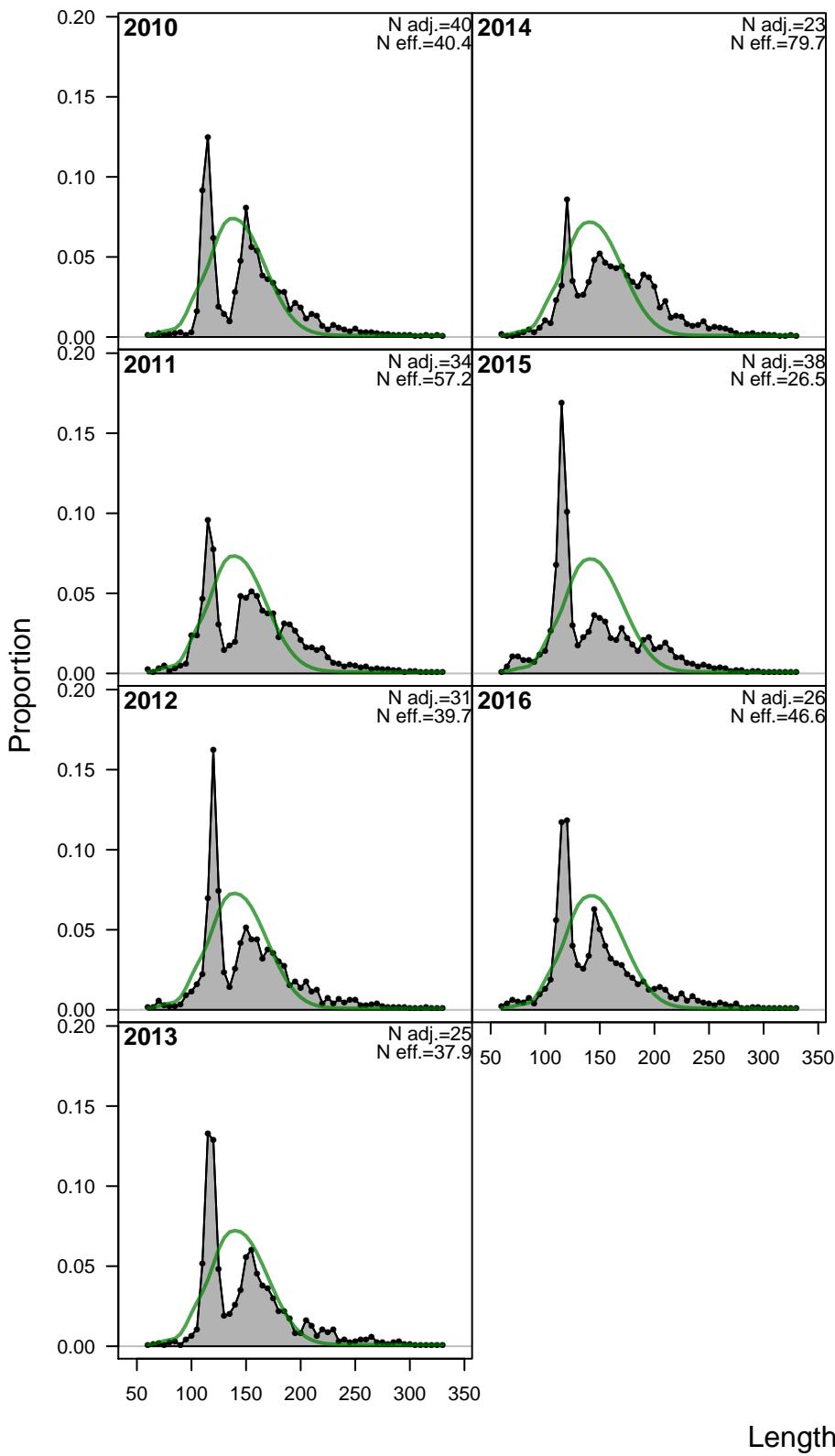
F14\_MEX\_NOR

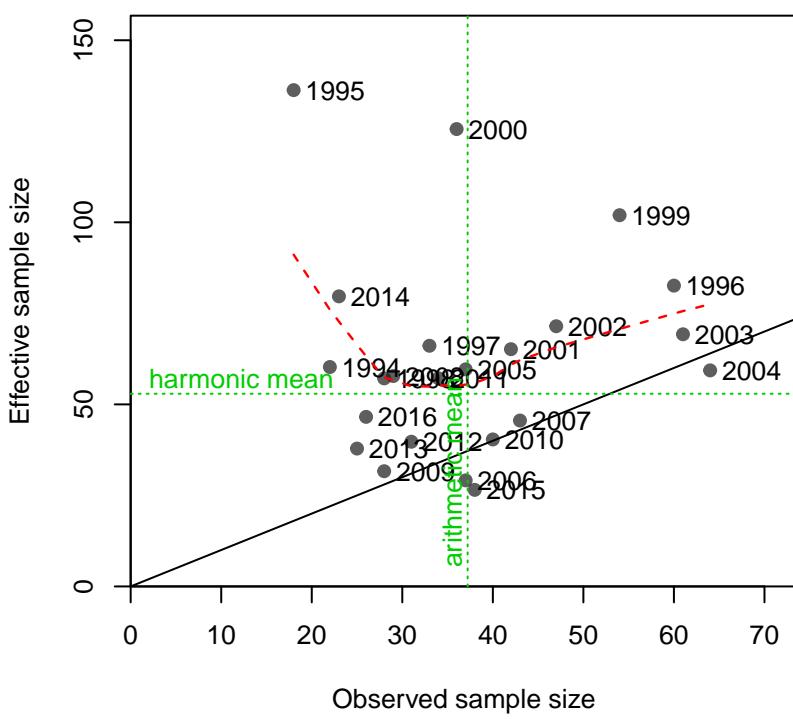
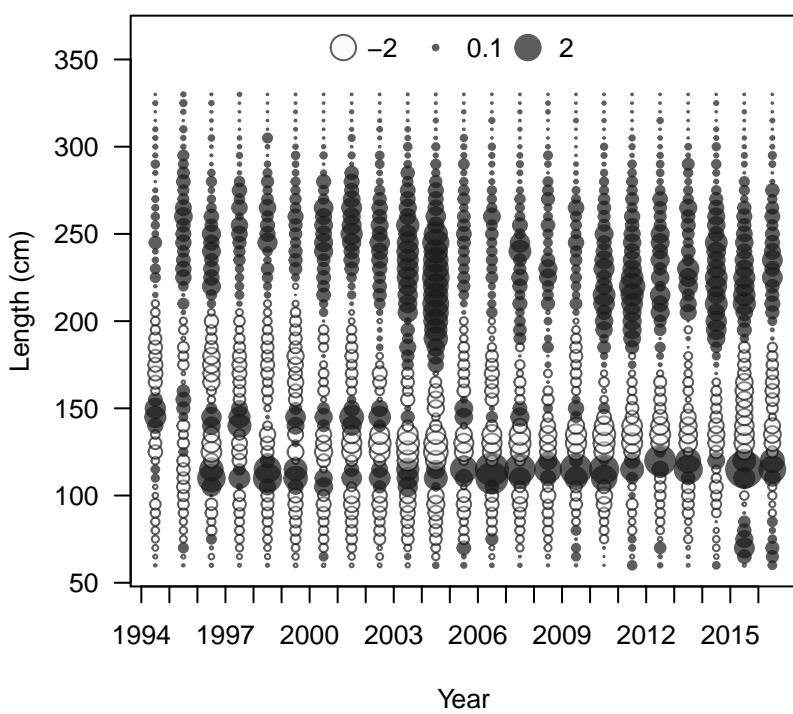


F15\_MEX\_SOU

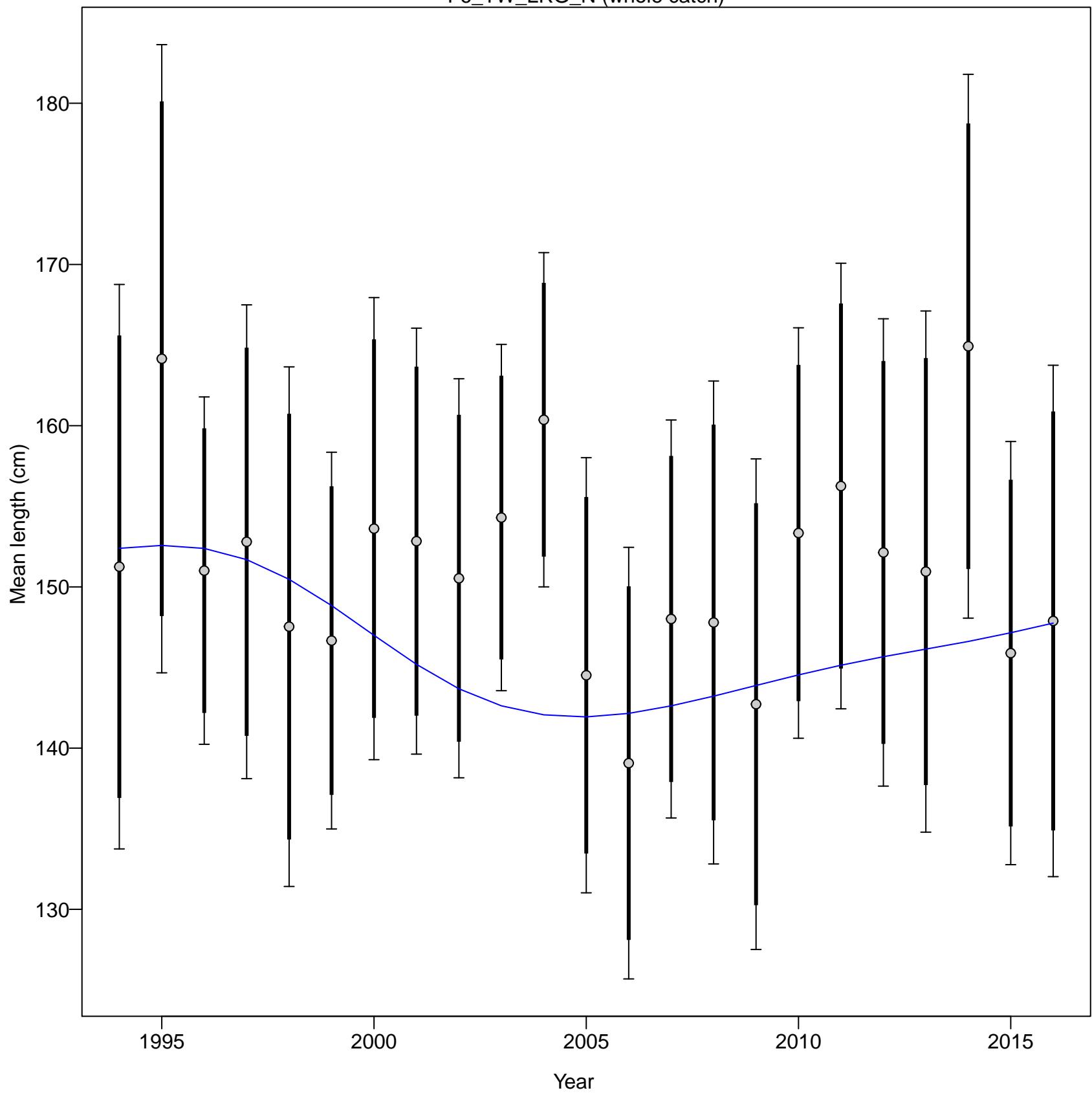


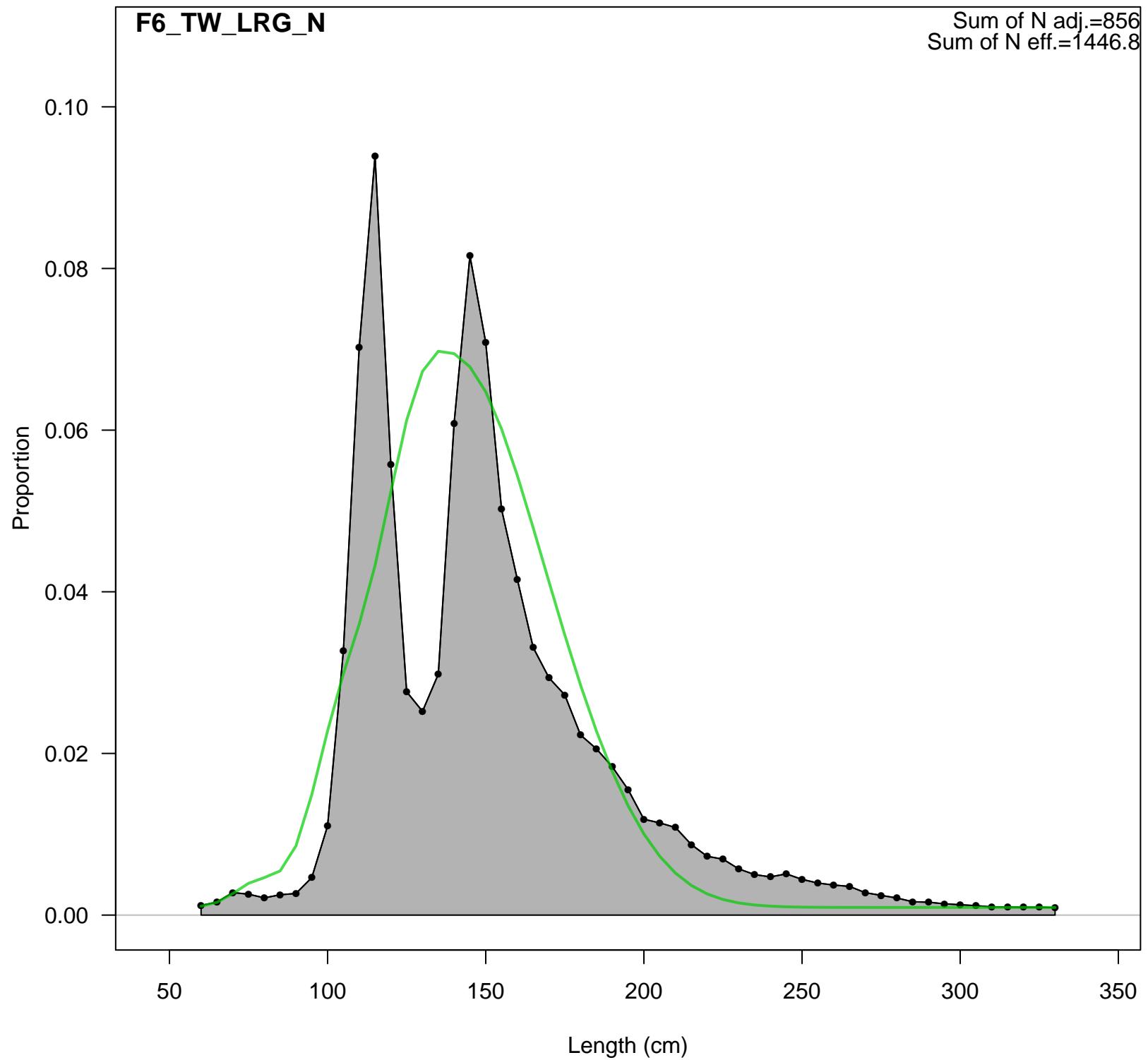


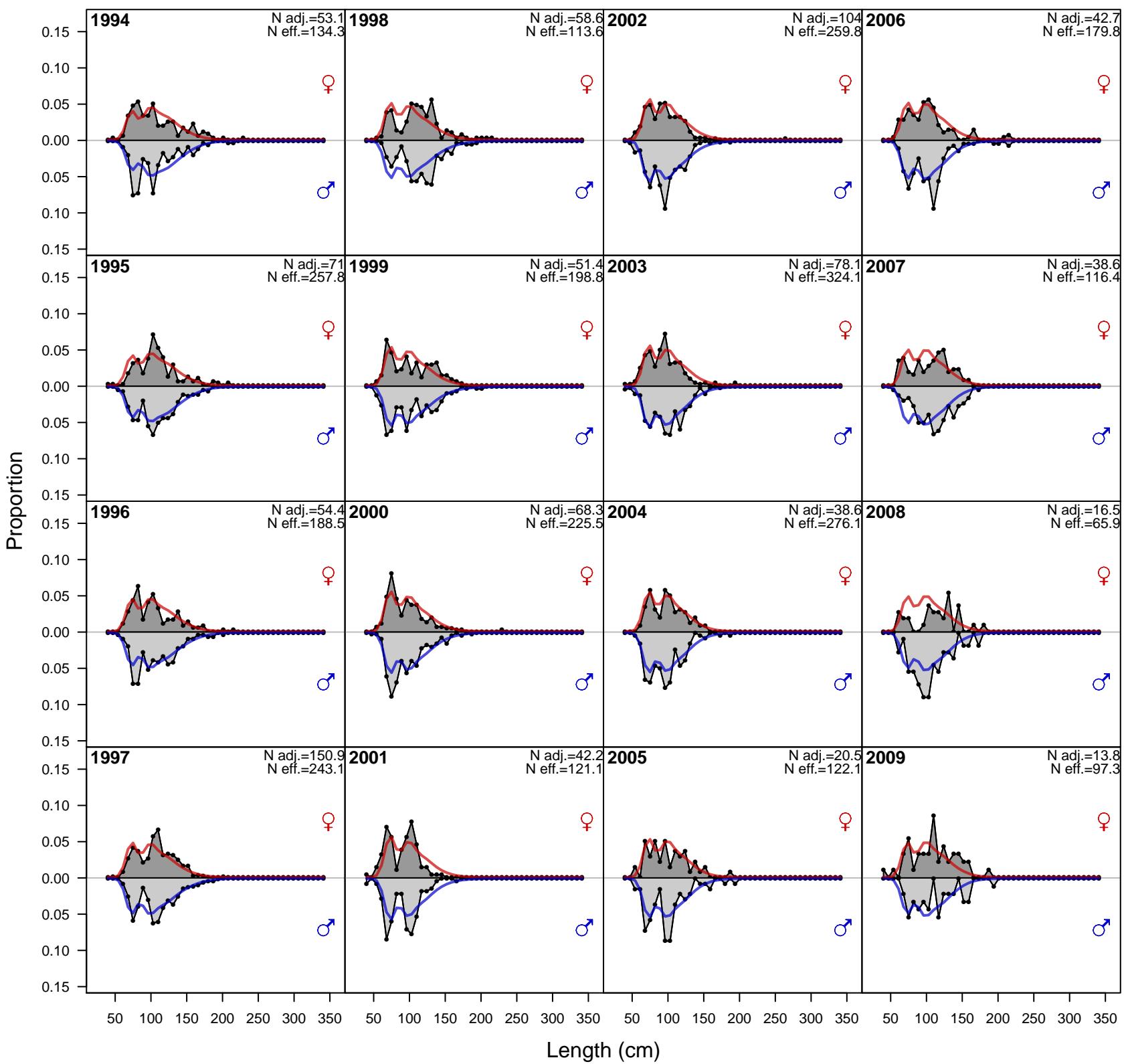


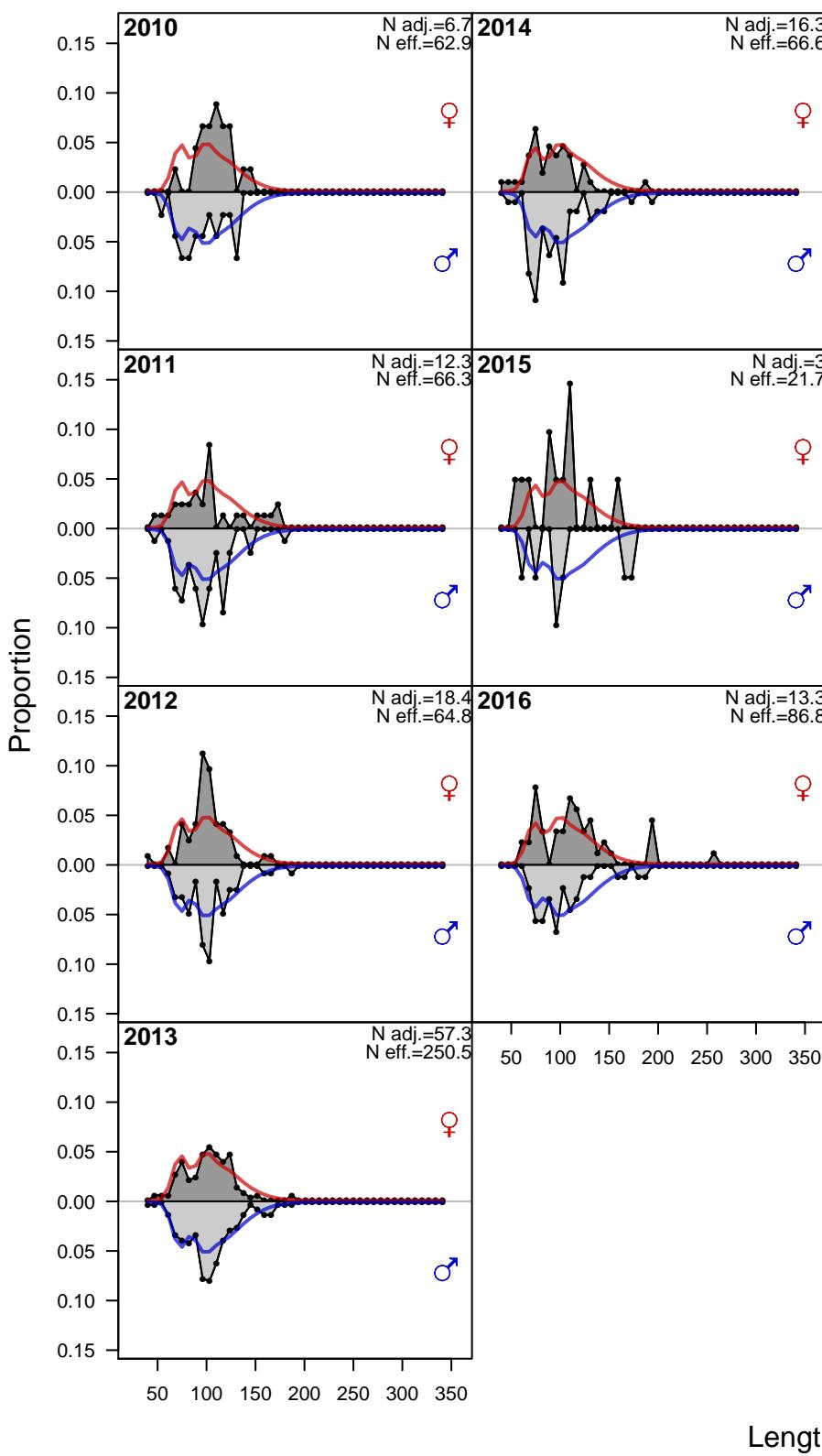


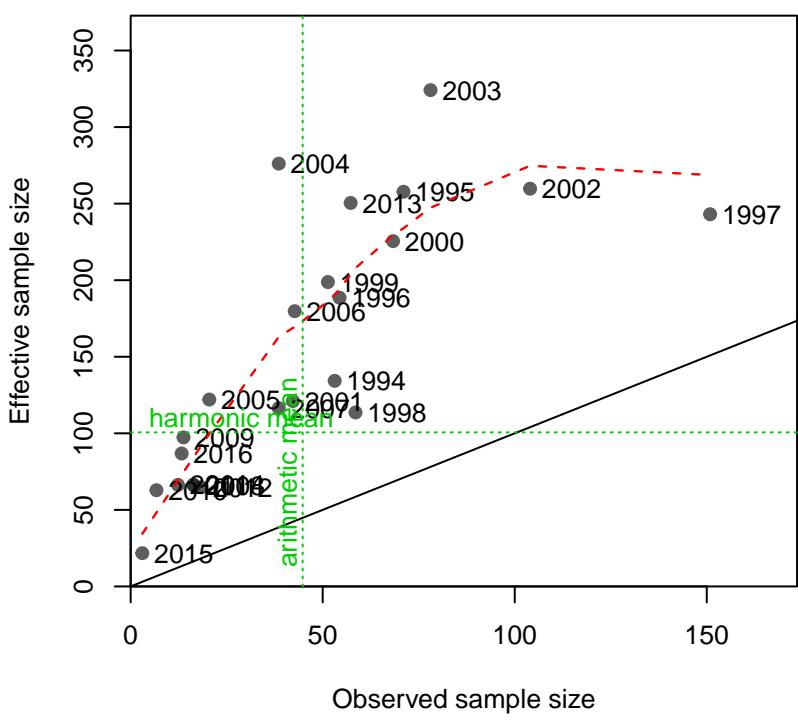
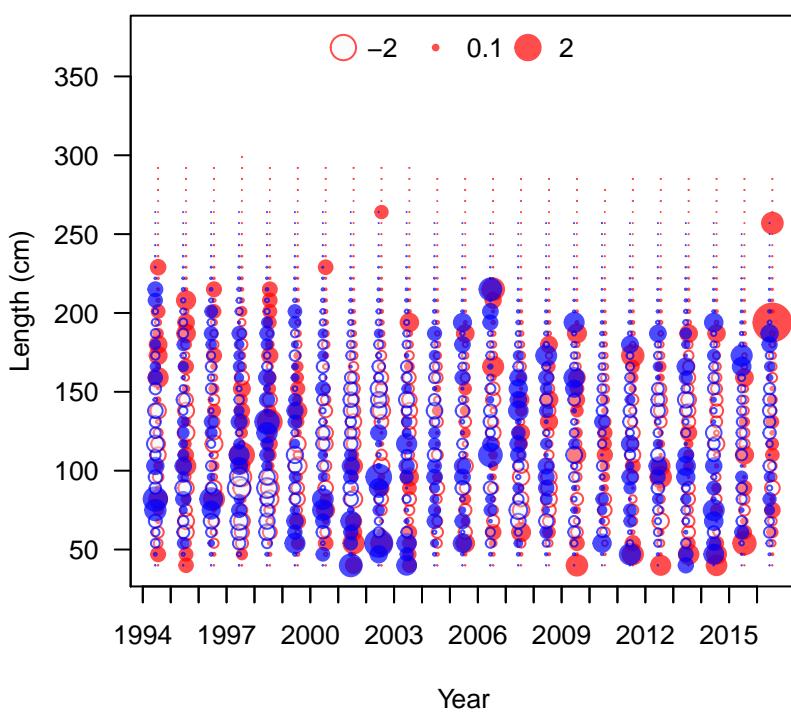
### F6\_TW\_LRG\_N (whole catch)



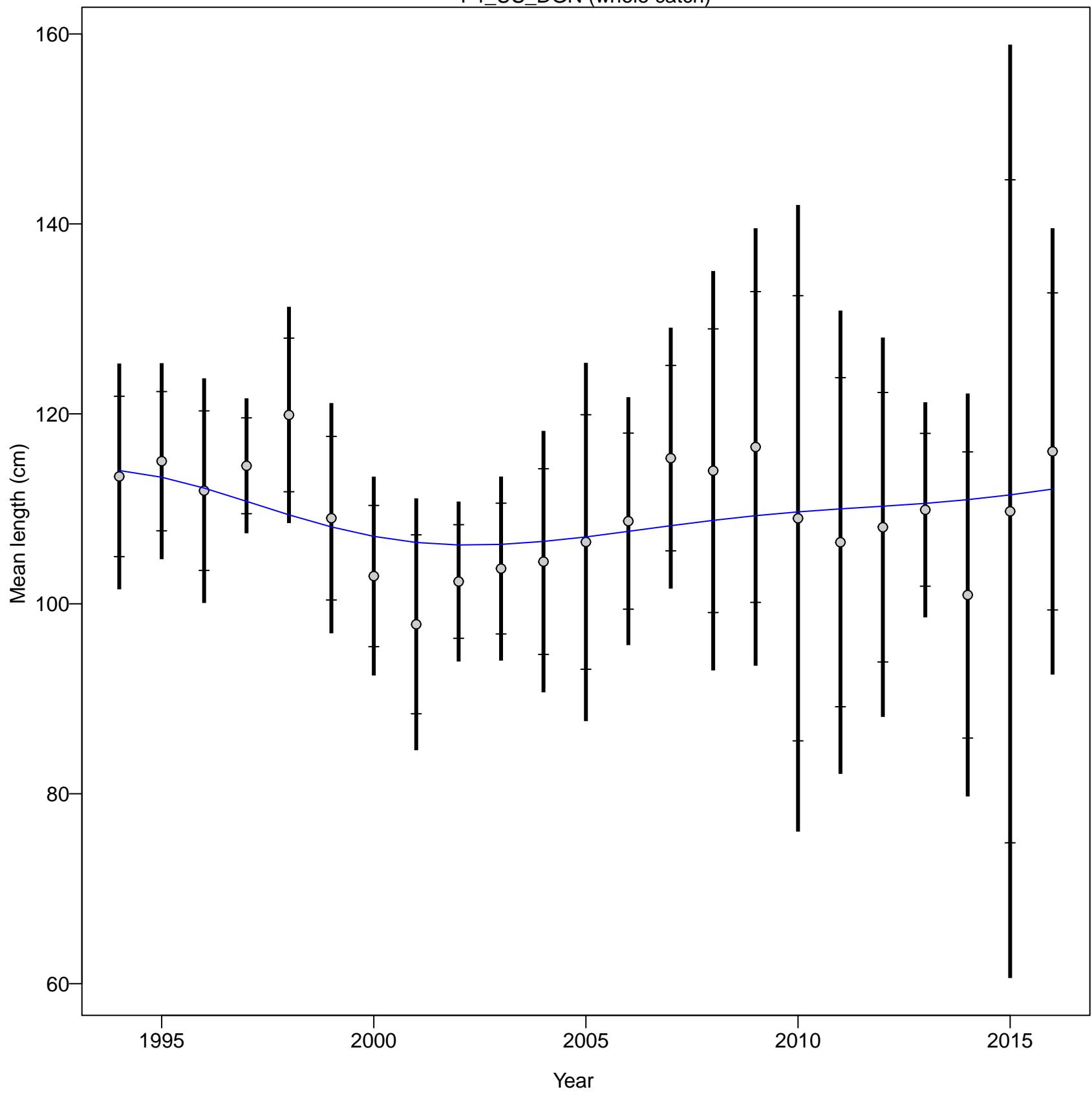


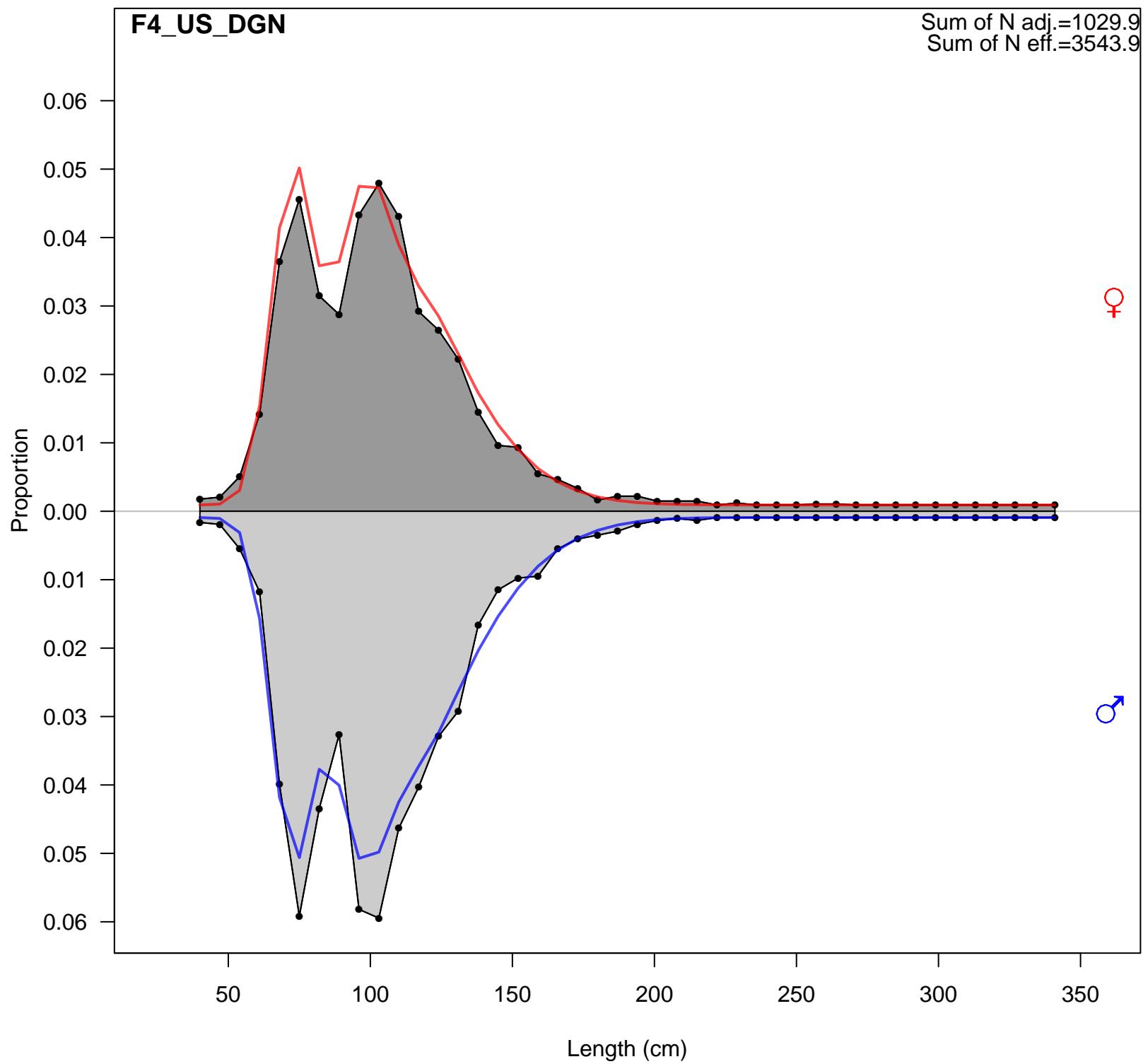






# F4\_US\_DGN (whole catch)





### Data by type and year

