

Figure 1. King crab fishing districts and sections of Statistical Area Q.

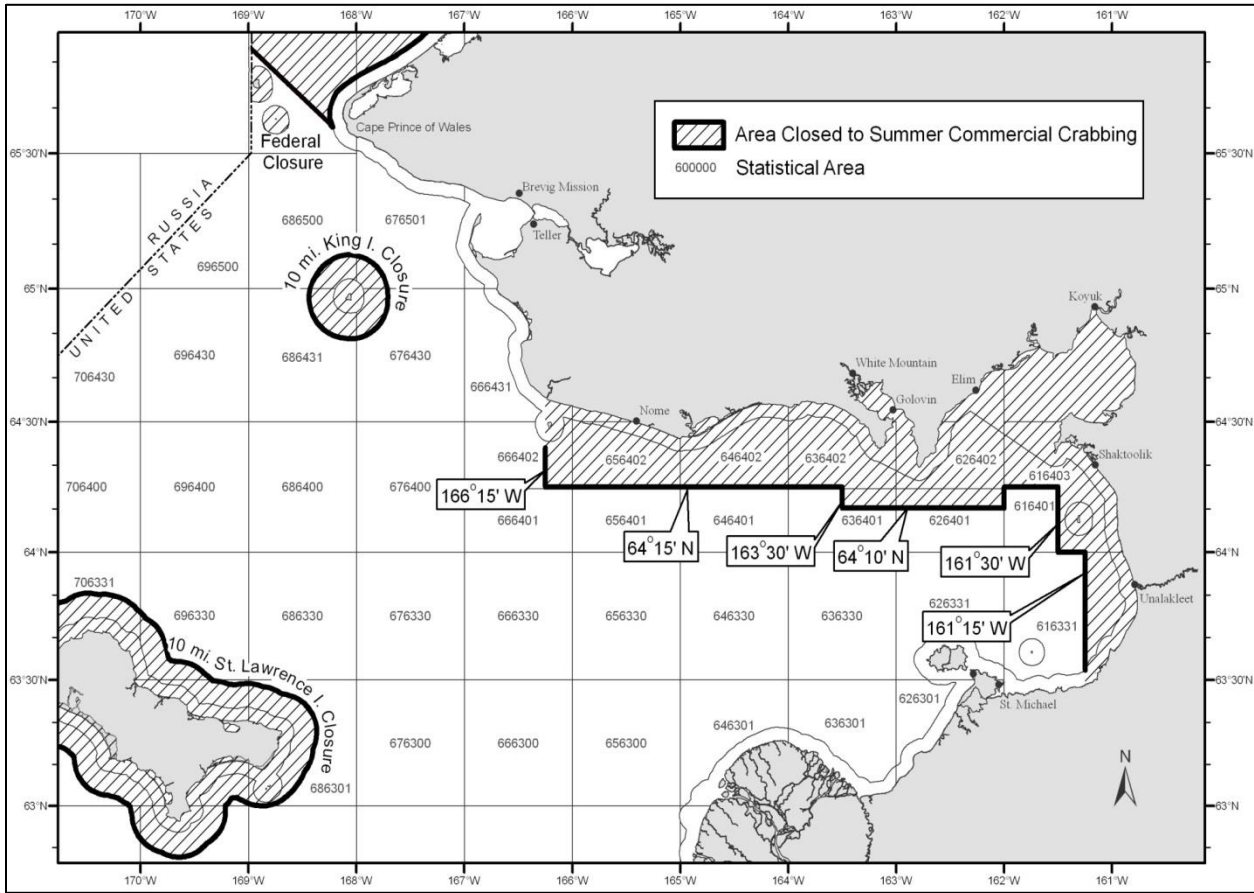


Figure 2. Closed water regulations in effect for the Norton Sound commercial crab fishery. Line around the coastline delineates the 3-mile state waters zone.

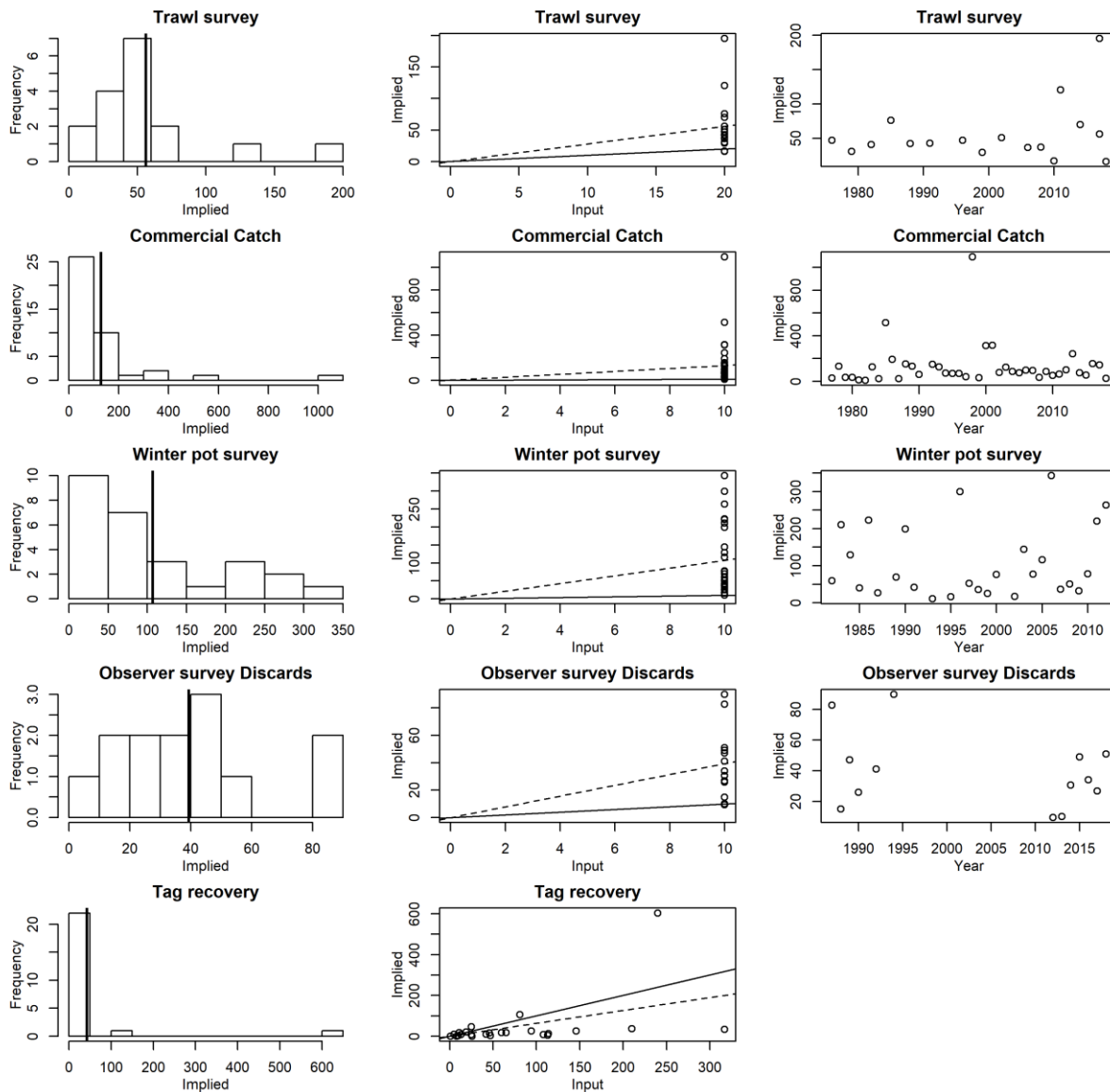


Figure 4. Input vs. model implied effective sample size. Figures in the first column show implied effective sample size (x-axis) vs. frequency (y-axis). Vertical solid line is the implied sample size. Figures in the second column show input sample sizes (x-axis) vs. implied effective sample sizes (y-axis). Dashed line indicates the linear regression slope, and solid line is 1:1 line. Figures in the third column show years (x-axis) vs. implied effective sample sizes (y-axis).

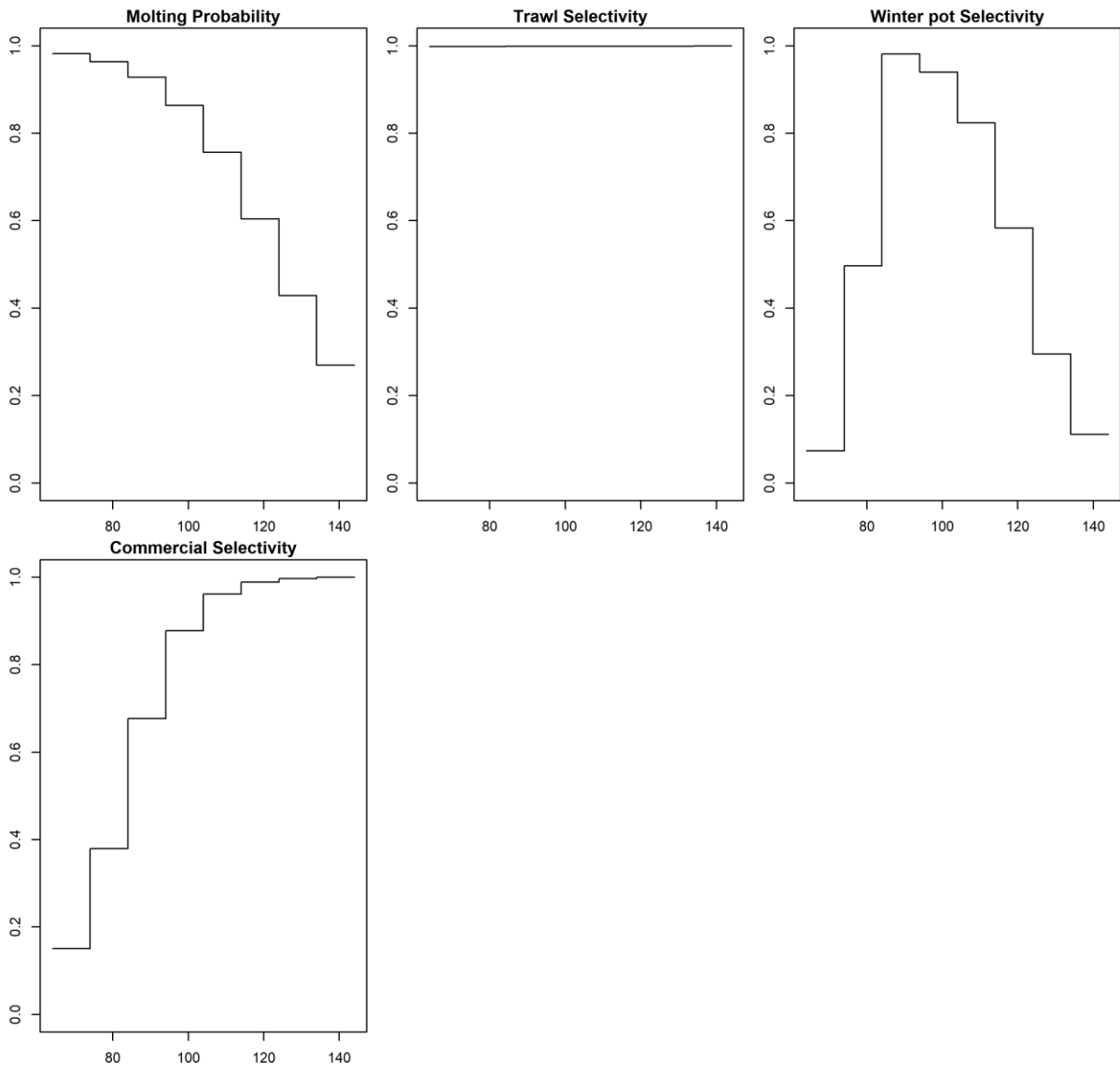


Figure 5. Model estimated annual molting probability, trawl survey selectivity, winter pot survey selectivity, and summer commercial fishery selectivity. X-axis is carapace length (mm).

Trawl survey crab abundance

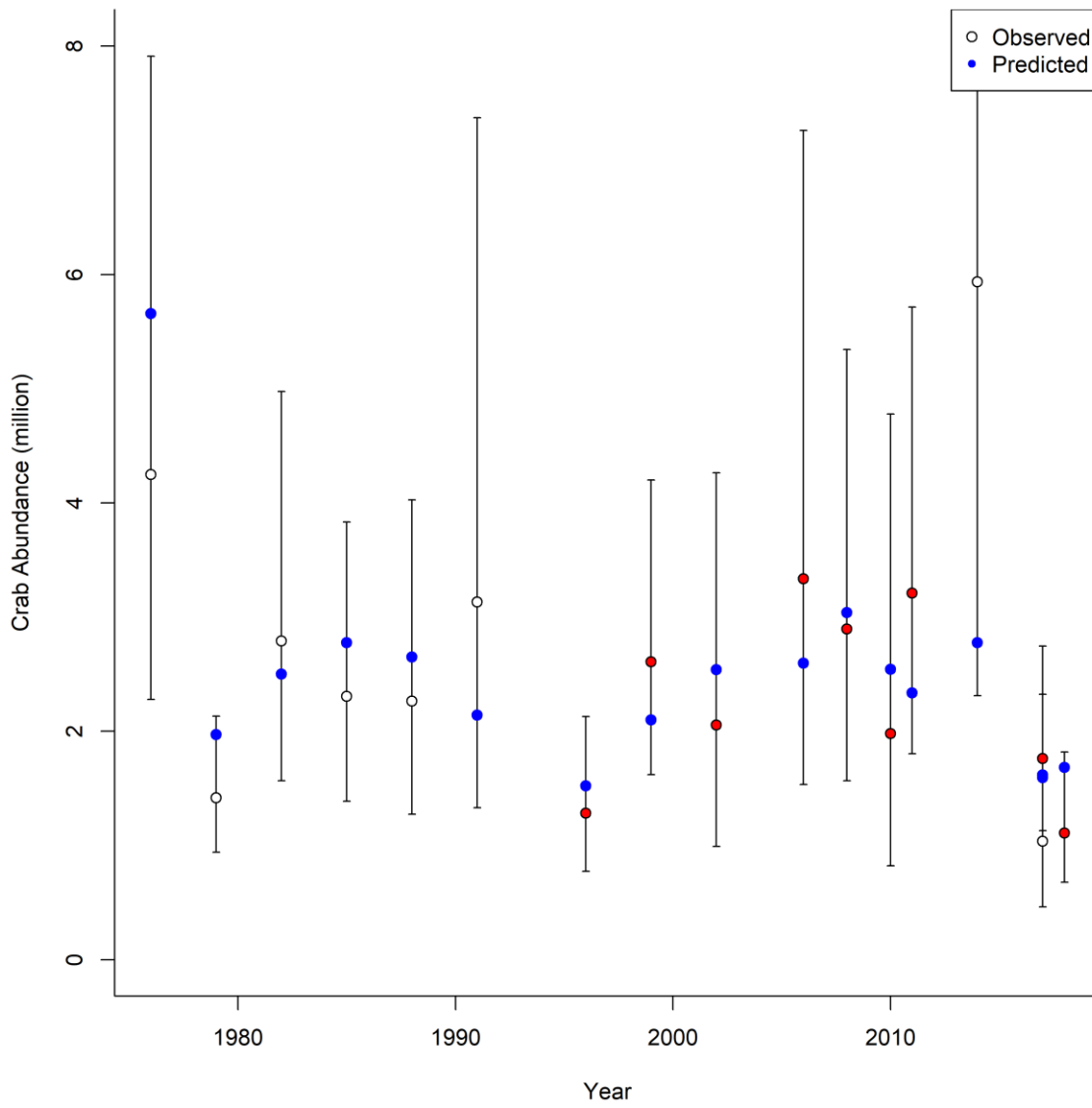


Figure 6. Observed (open circle) (White: NMFS, Red ADF&G) and model estimated (dots) trawl survey male abundances with 95% lognormal Confidence Intervals (1976-1991:crab \geq 74 mm CL, 1996-2017:crab \geq 64 mm CL)

Modeled crab abundance Feb 01

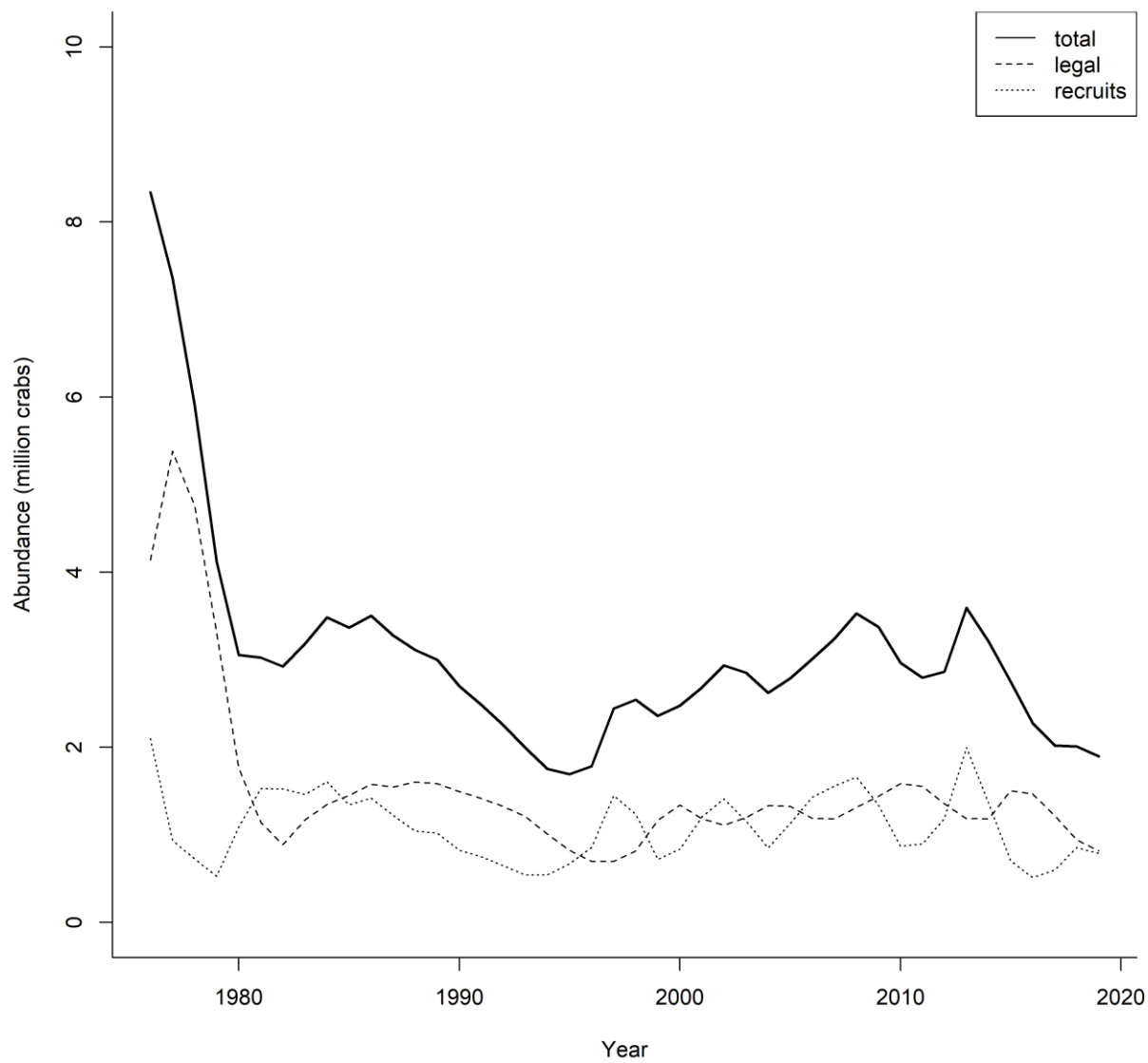


Figure 7. Model estimated abundances of total, legal (CL>104mm) and recruit (CL 64-94mm) males during 1976-2018.

MMB Feb 01

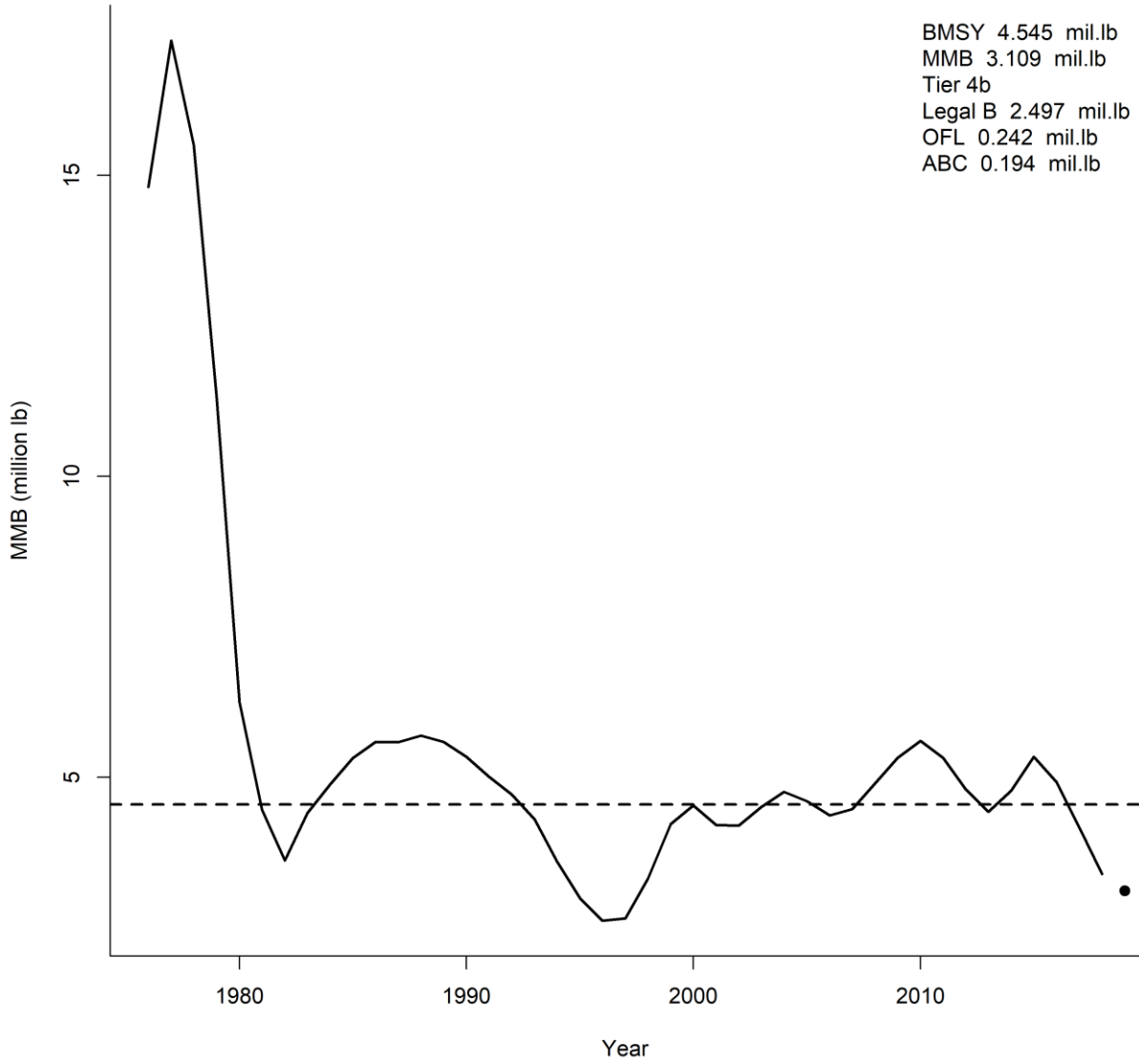


Figure 8. Estimated MMB during 1976-2018. Dash line shows Bmsy (Average MMB of 1980-2018). The black point indicates the projected MMB of 2018.

Summer commercial standardized cpue

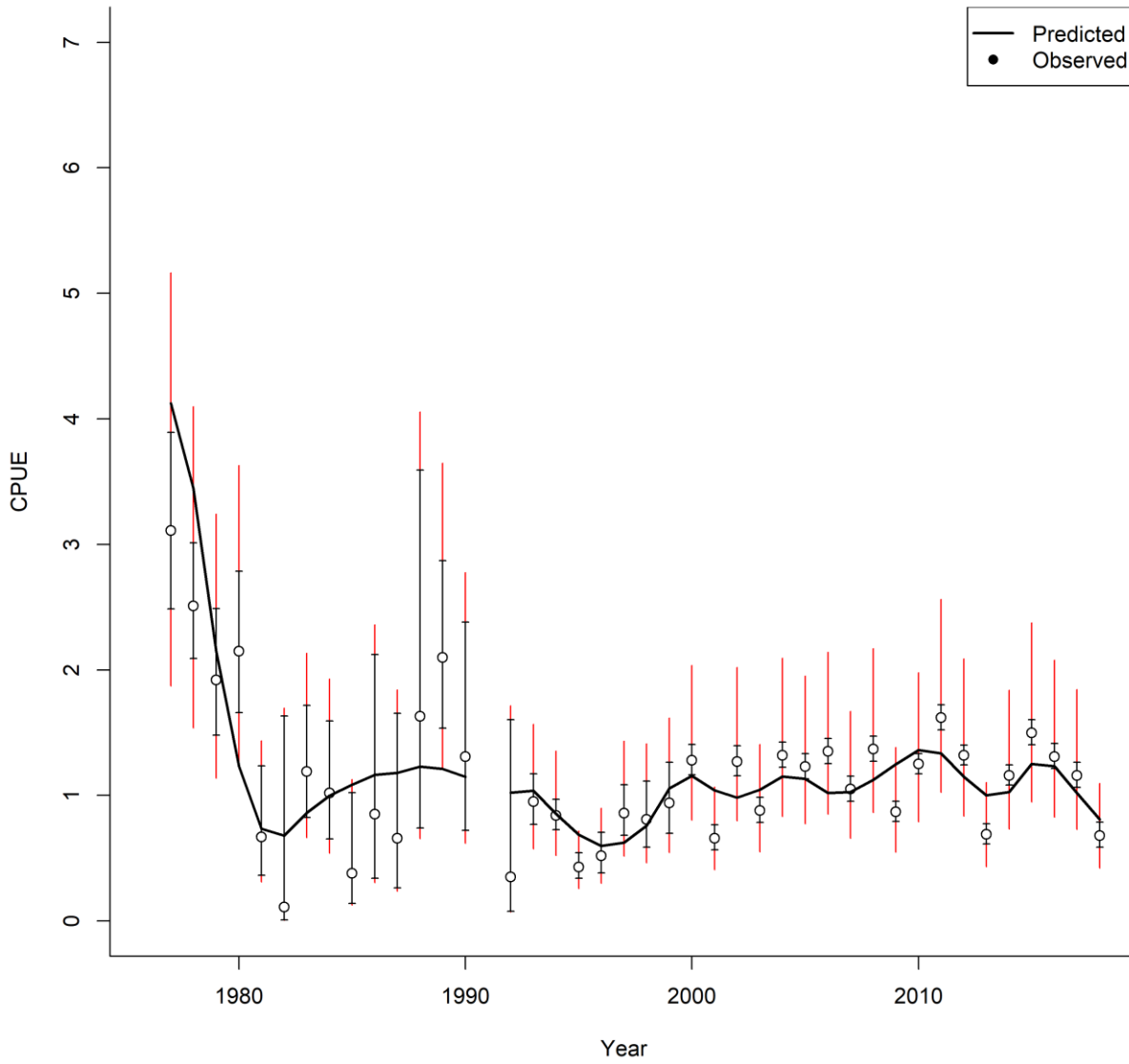


Figure 9. Summer commercial fishery standardized cpue. Vertical black lines are input SD and red lines are input and estimated additional SD.

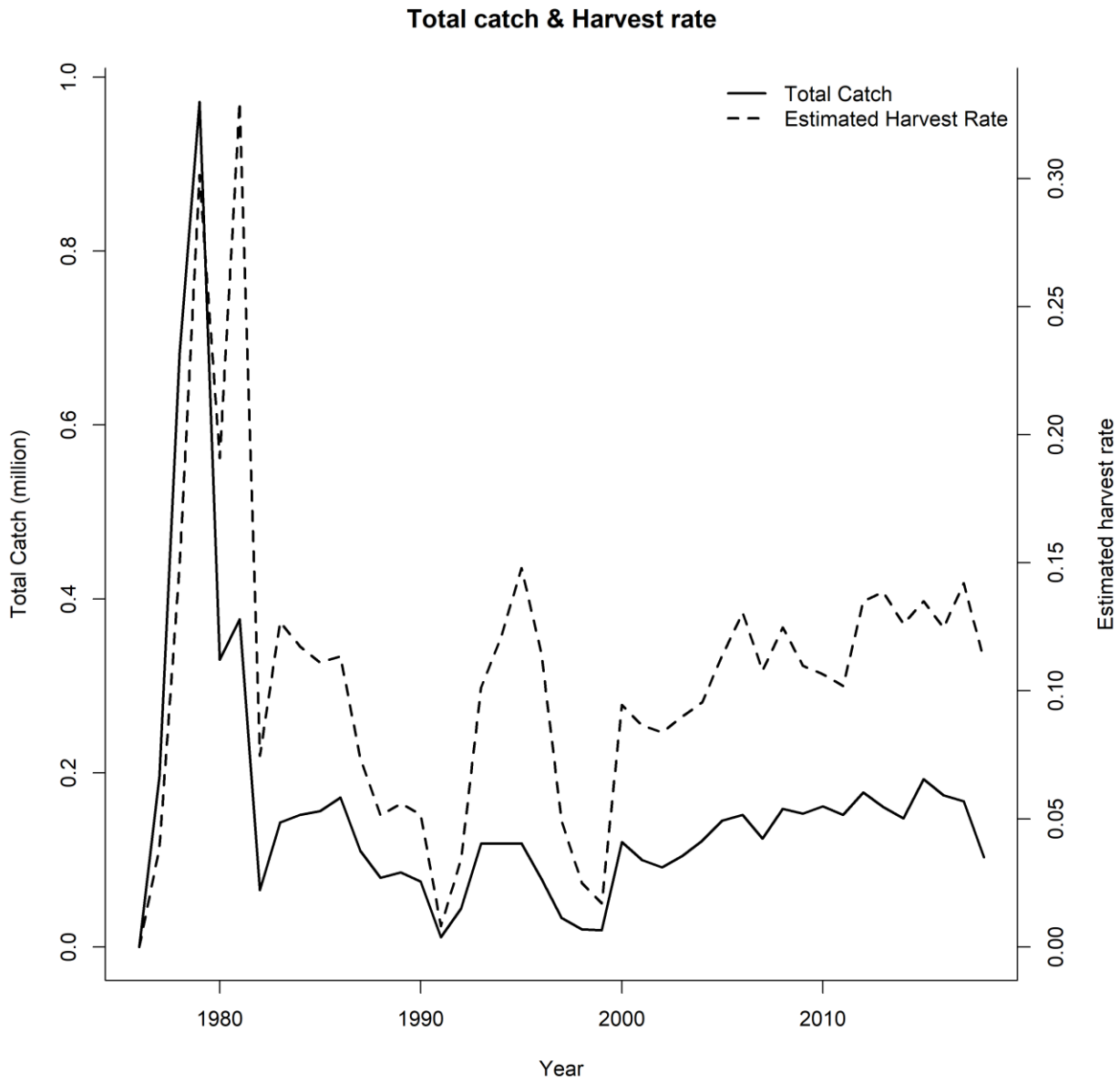


Figure 10. Commercial catch and estimated harvest rates of legal males over time.

Residuals Histogram, Q-Q Plot, Predicted vs. Residual

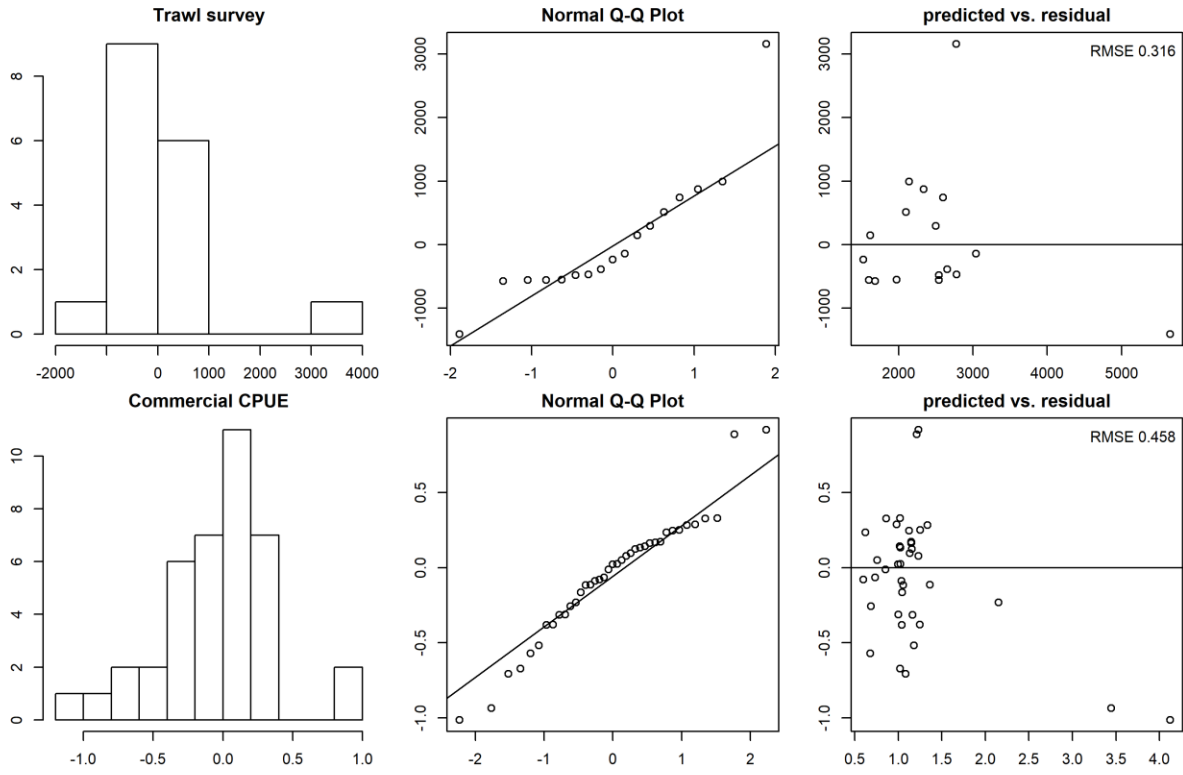
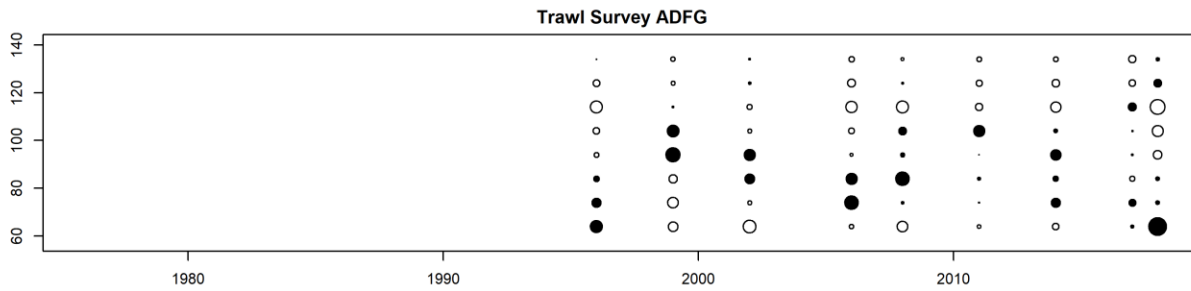
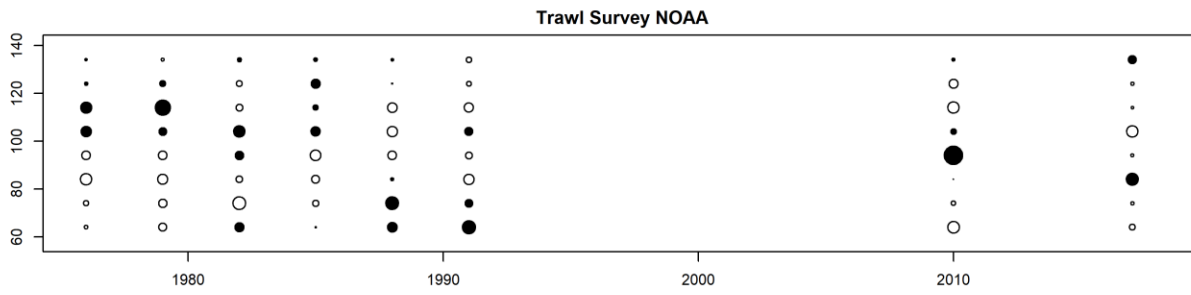
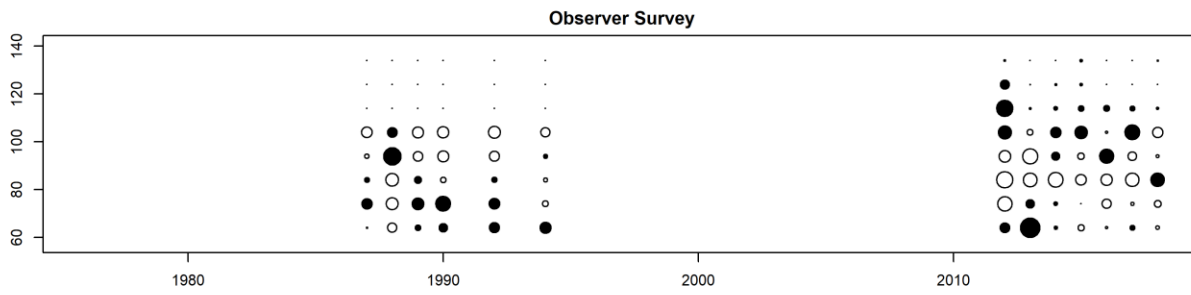
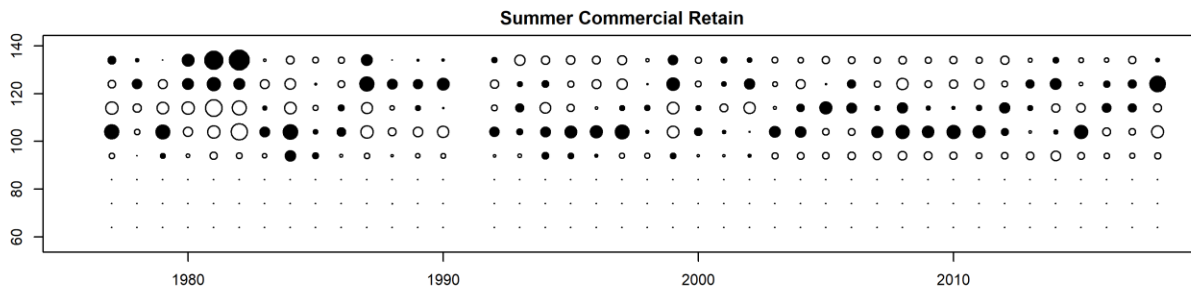
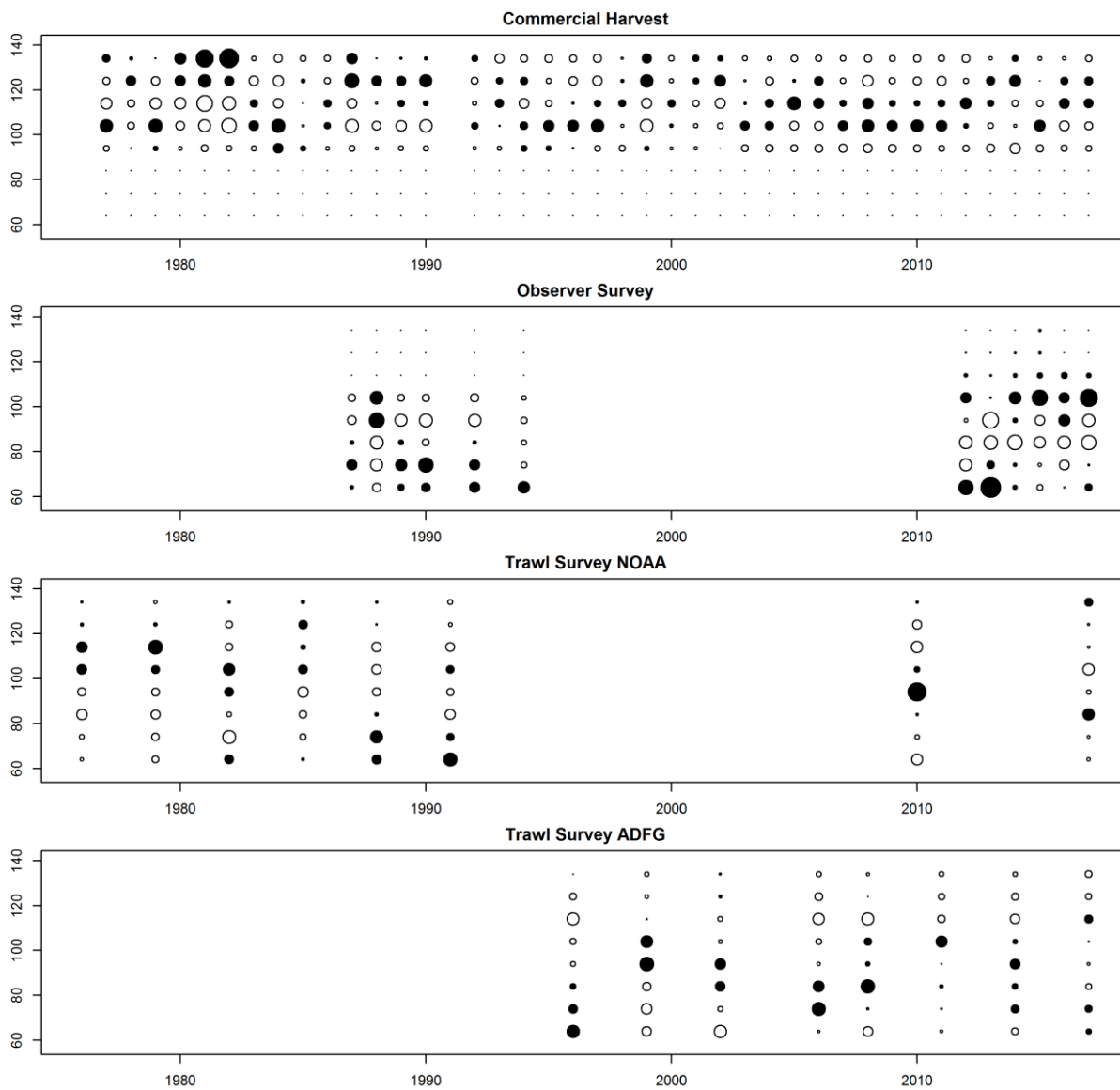


Figure 11. QQ plots of trawl survey abundance and commercial CPUE residuals.





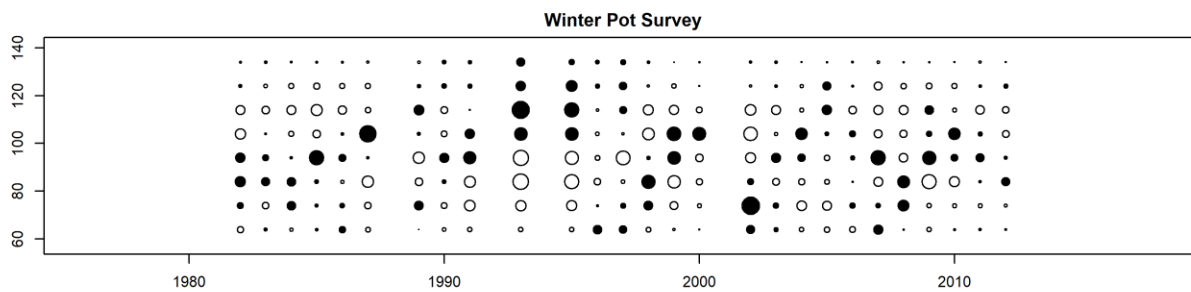


Figure 12. Bubble plot of predicted and observed length proportions. Black circle indicates model estimates lower than observed, white circle indicates model estimates higher than observed. Size of circle indicates degree of deviance (larger circle = larger deviance).

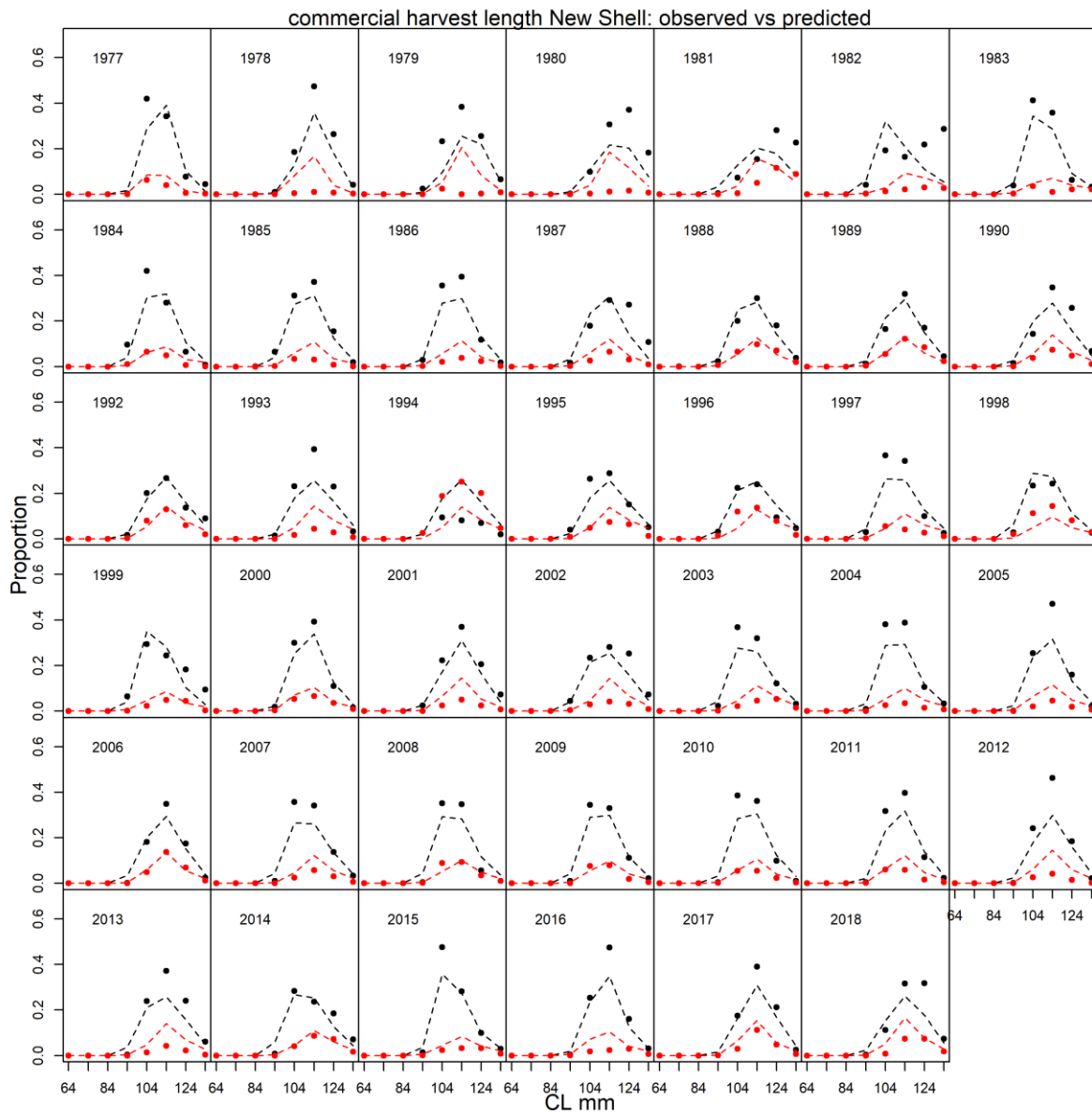


Figure 13. Predicted (dashed line) vs. observed (black dots) length class proportions for the summer commercial catch. Black: New Shell, Red: Old Shell

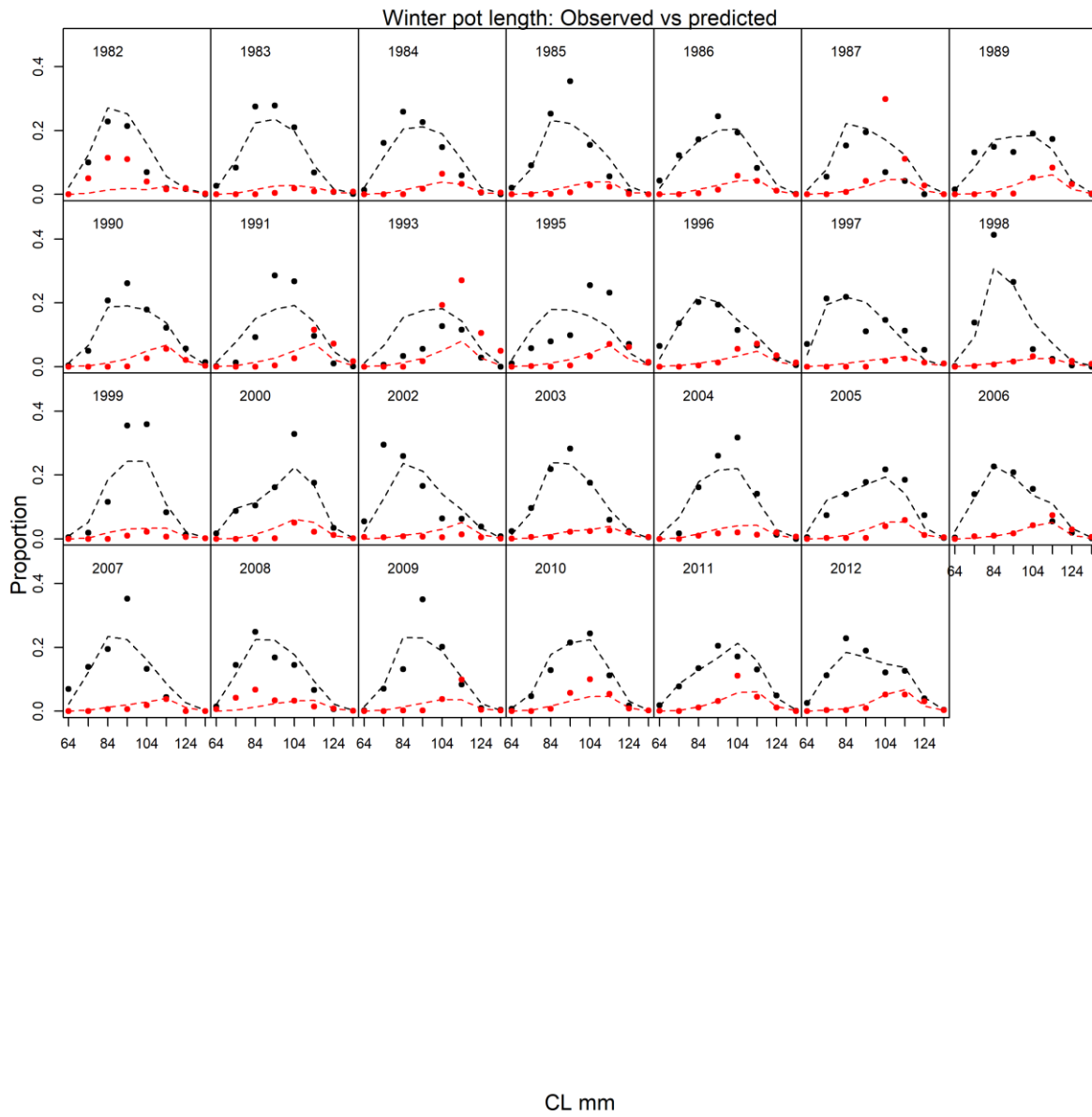
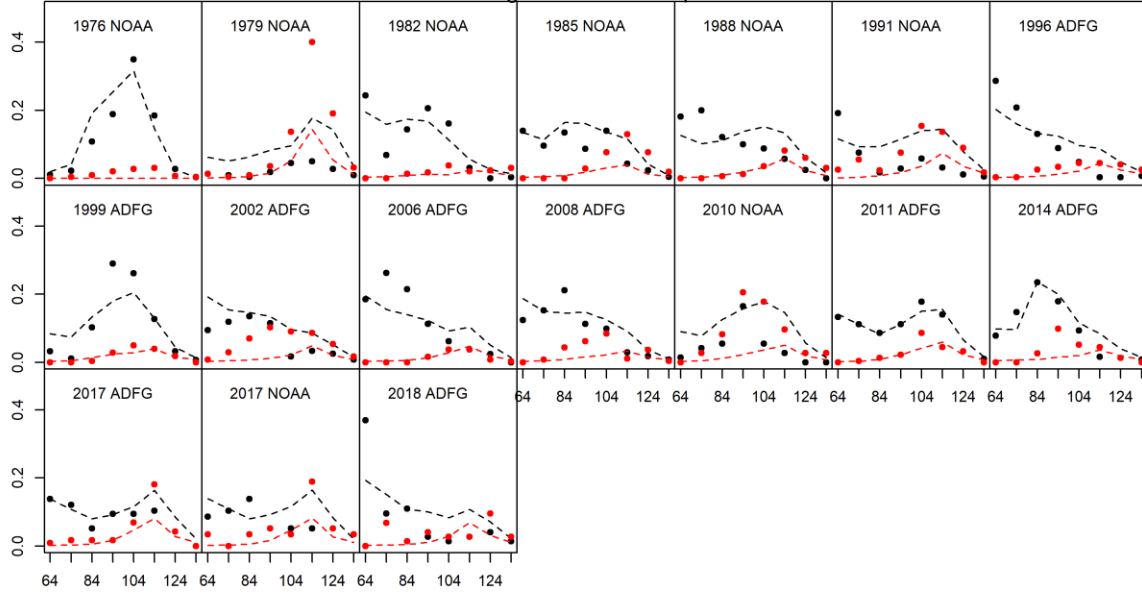


Figure 14. Predicted vs. observed length class proportions for winter pot survey. Black: New Shell, Red: Old Shell

Trawl length: observed vs predicted



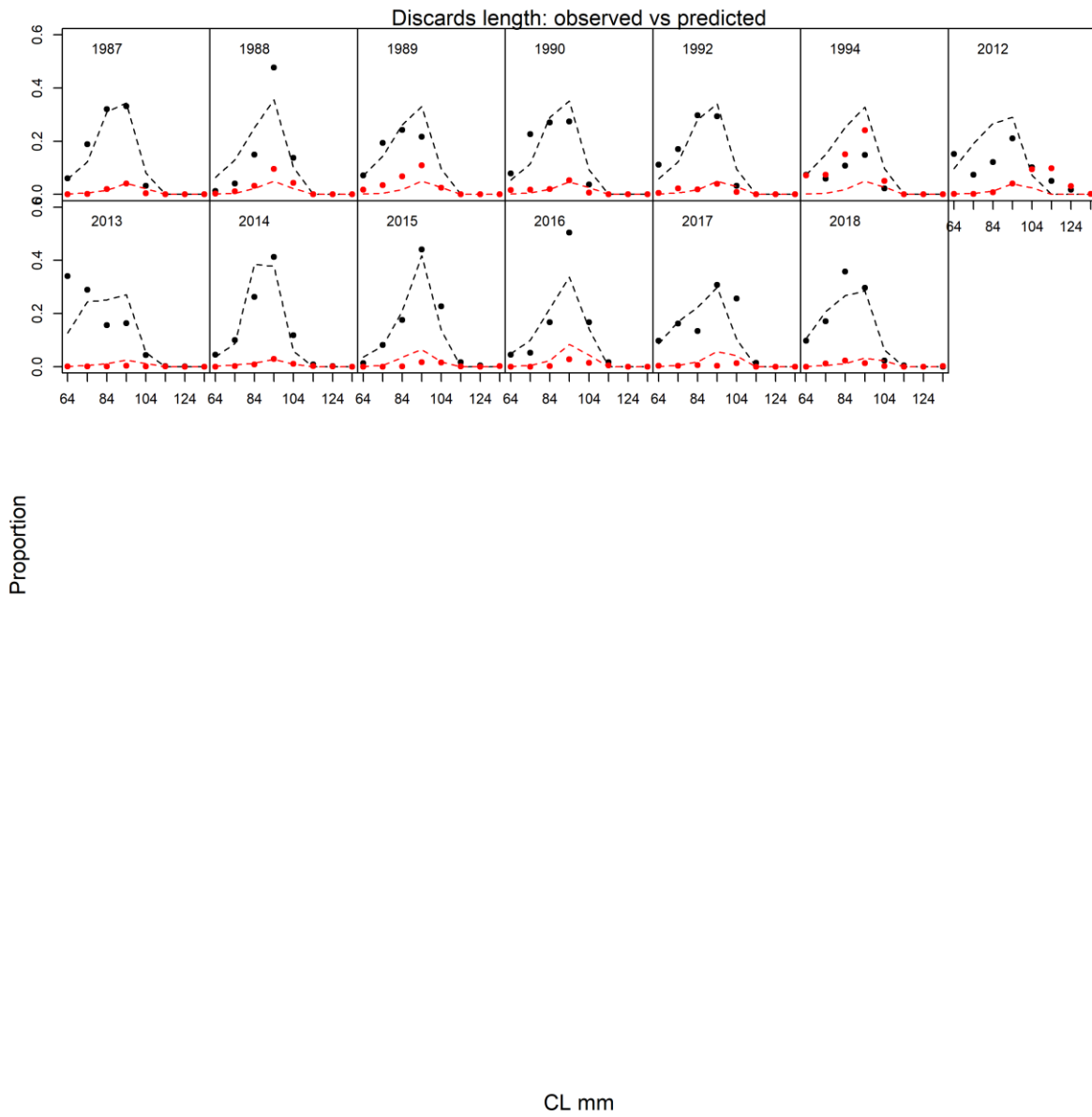


Figure 15. Predicted vs. observed length class proportions for trawl survey and commercial observer data. Black: New Shell, Red: Old Shell

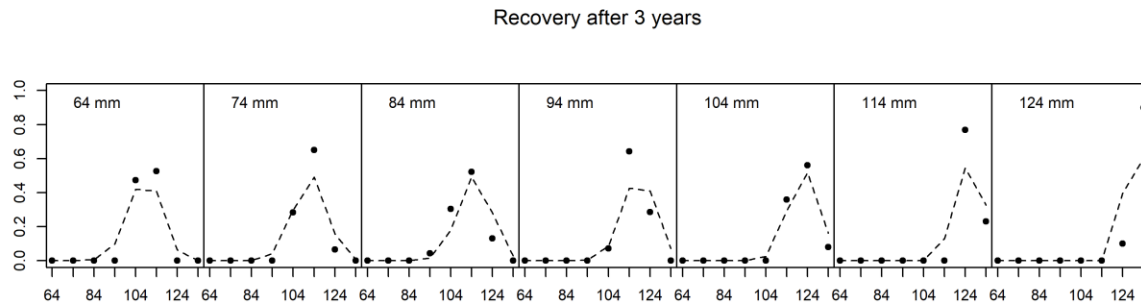
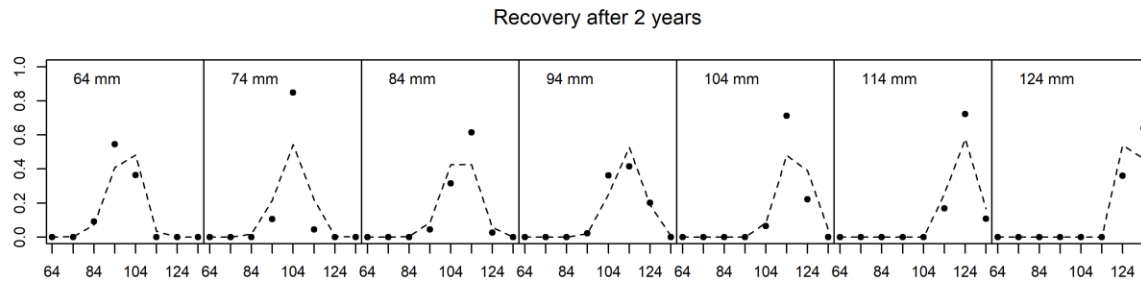
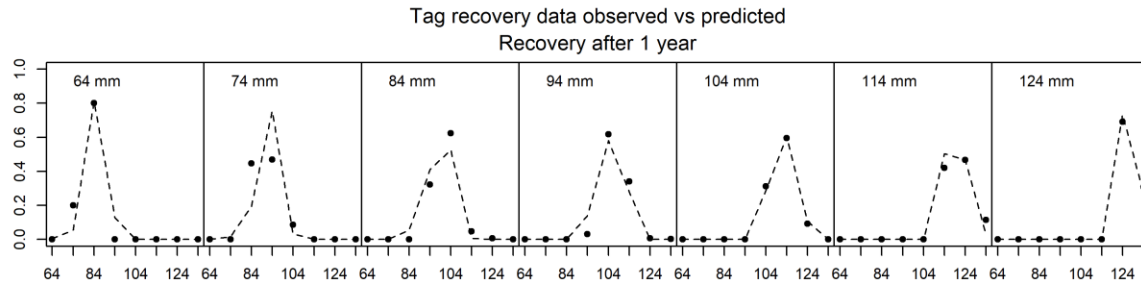


Figure 16. Predicted vs. observed length class proportions for tag recovery data.

Figure 17. Retrospective analyses. Each line shows a series of retrospective MMB.