

WHAM\_MT\_Run4

Model years: 1980-2021

Projection years: none

Number of fleets: 1

Fleet Age Comp Models: Logistic normal (miss0)

Number of indices: 4

Age Comp Models: Logistic normal (miss0), Logistic normal (miss0), Logistic normal (miss0), Logistic normal (miss0)

Recruitment model: Random about mean

No Environmental covariates.

Number of Selectivity blocks: 5

Selectivity Block Types: Logistic(+), Age-specific, Age-specific, Age-specific, Age-specific

Fleet 1 Selectivity Blocks: 1

Index 1 Selectivity Blocks: 2

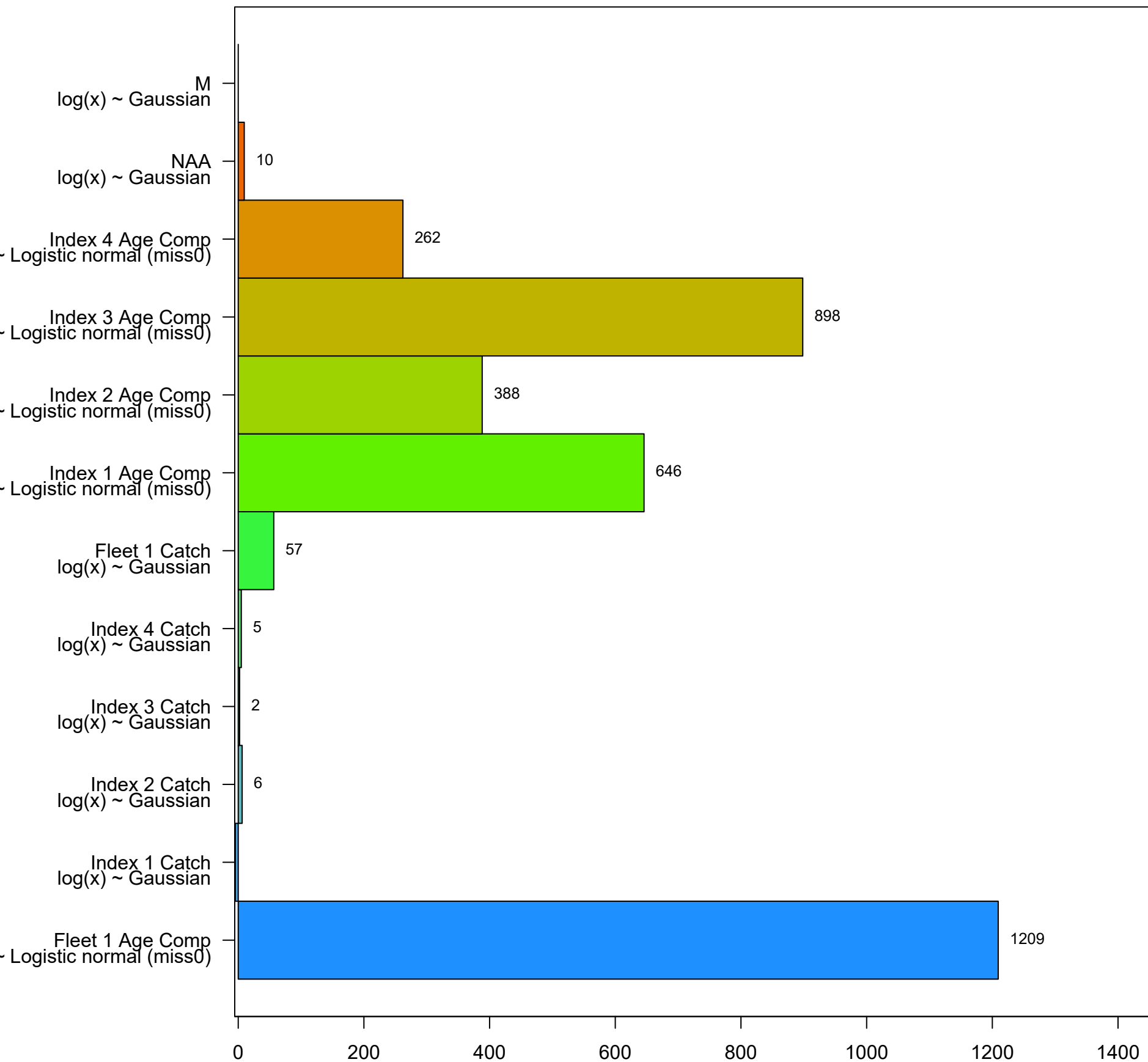
Index 2 Selectivity Blocks: 3

Index 3 Selectivity Blocks: 4

Index 4 Selectivity Blocks: 5

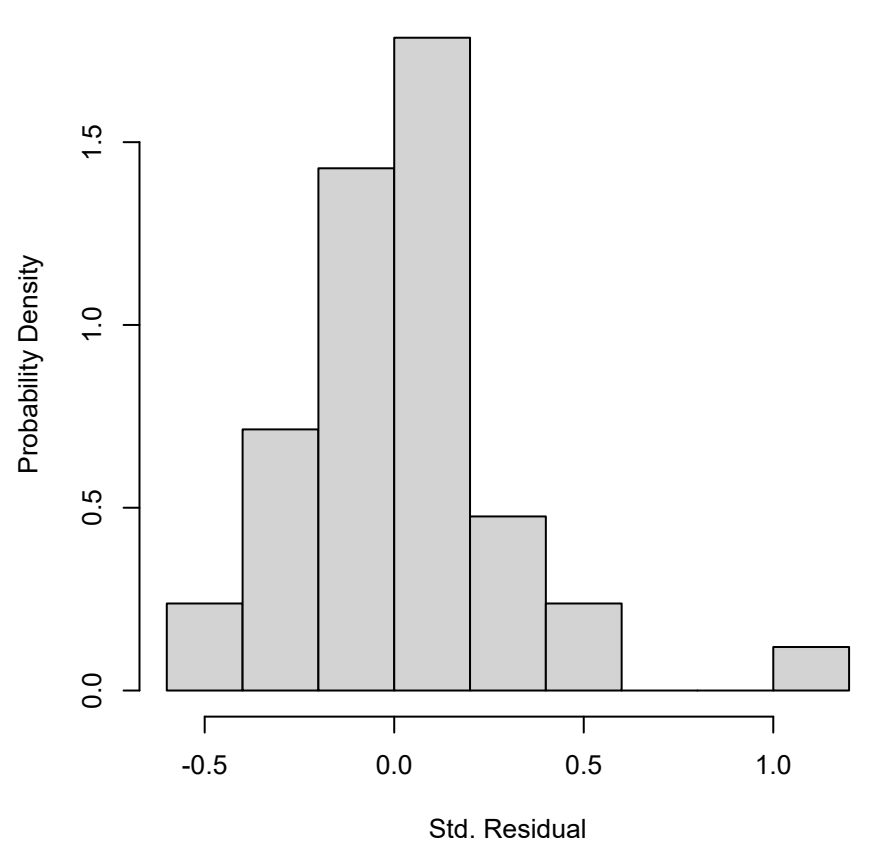
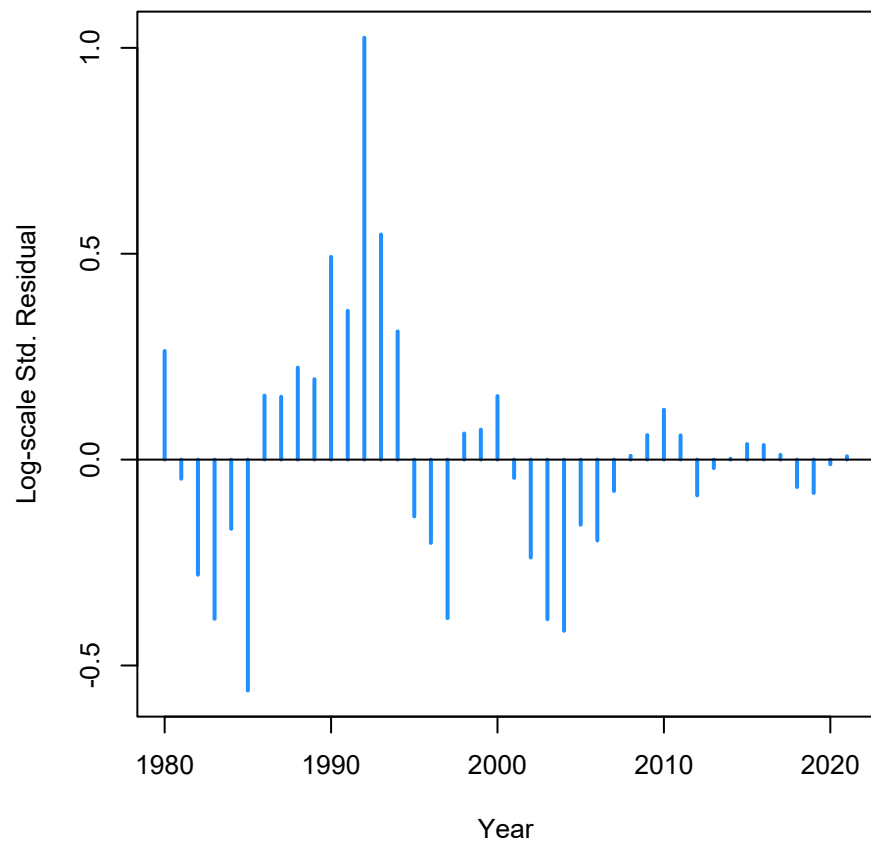
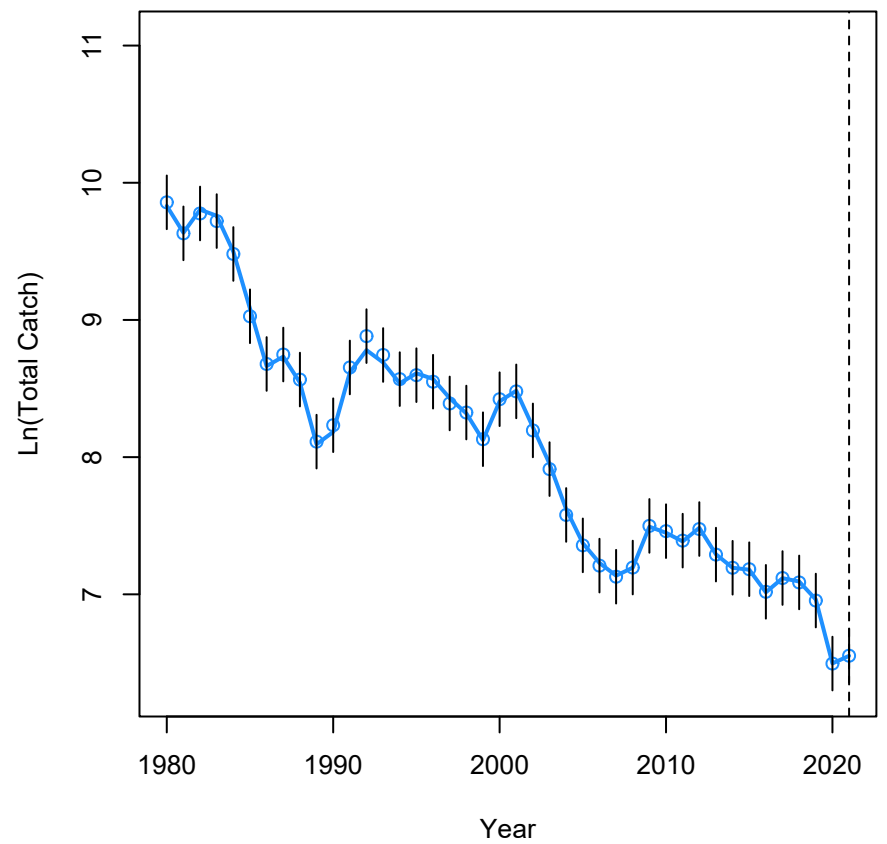
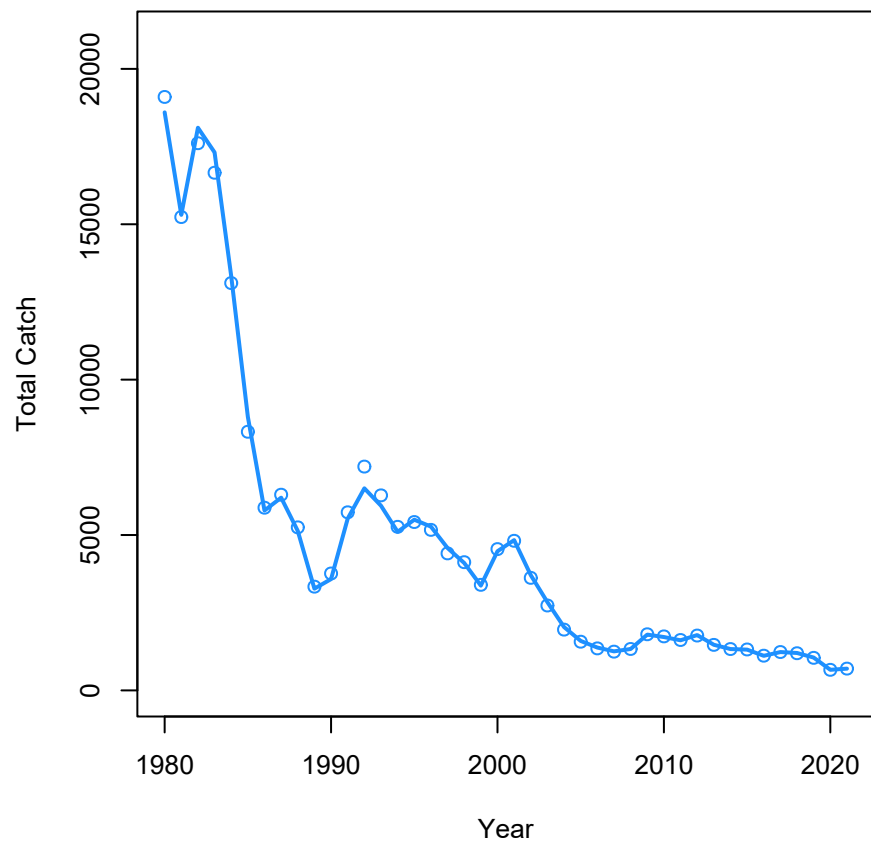
Run date: 2022-09-15 21:51:24 EDT

Run directory: C:/Users/Kiersten.Curti/Documents/GitHub.Repositories/PlaiceMT2022

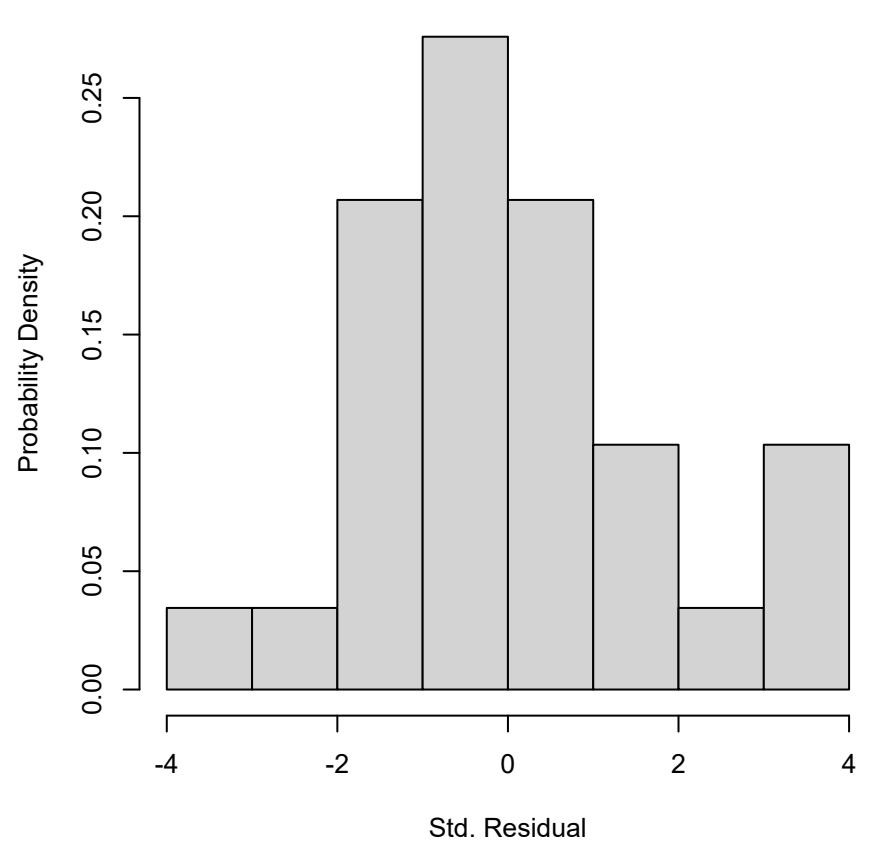
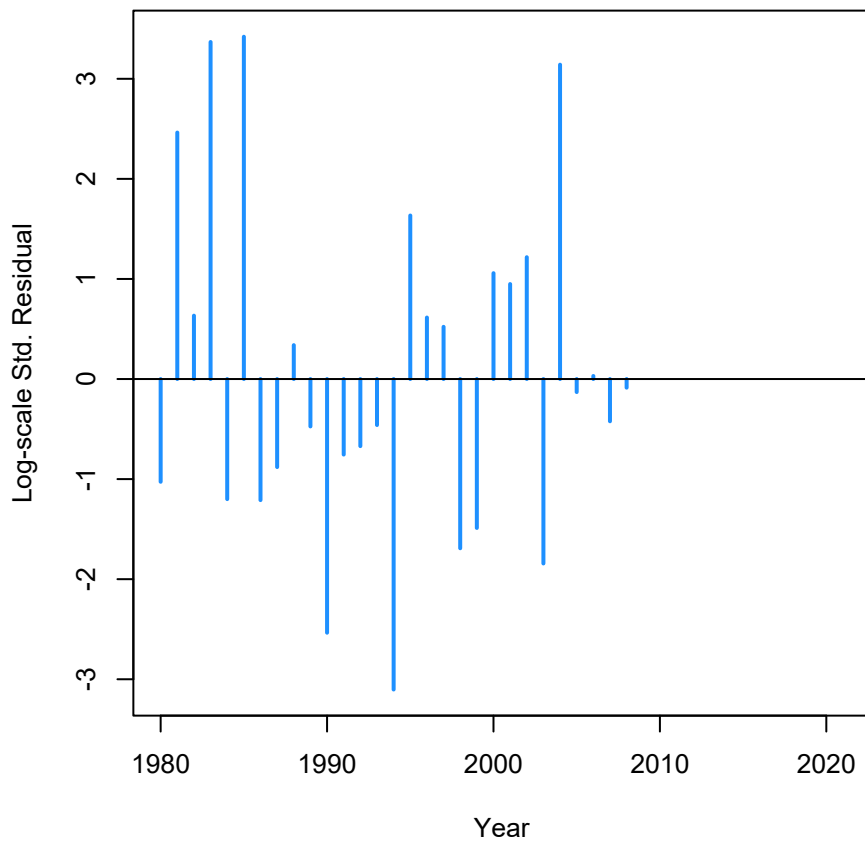
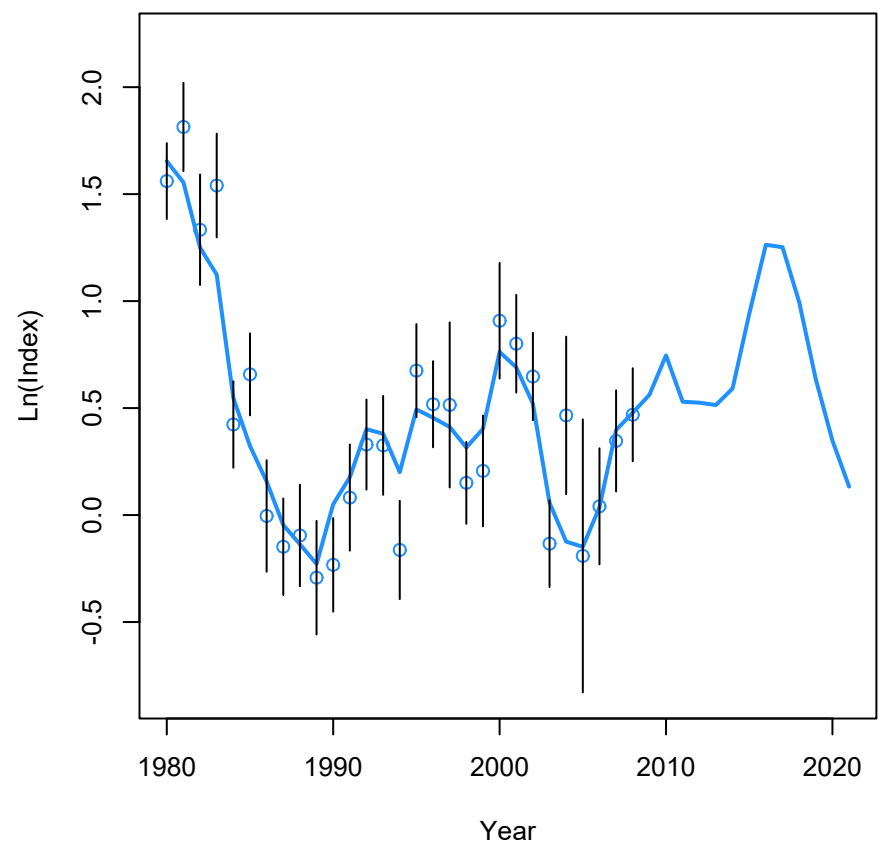
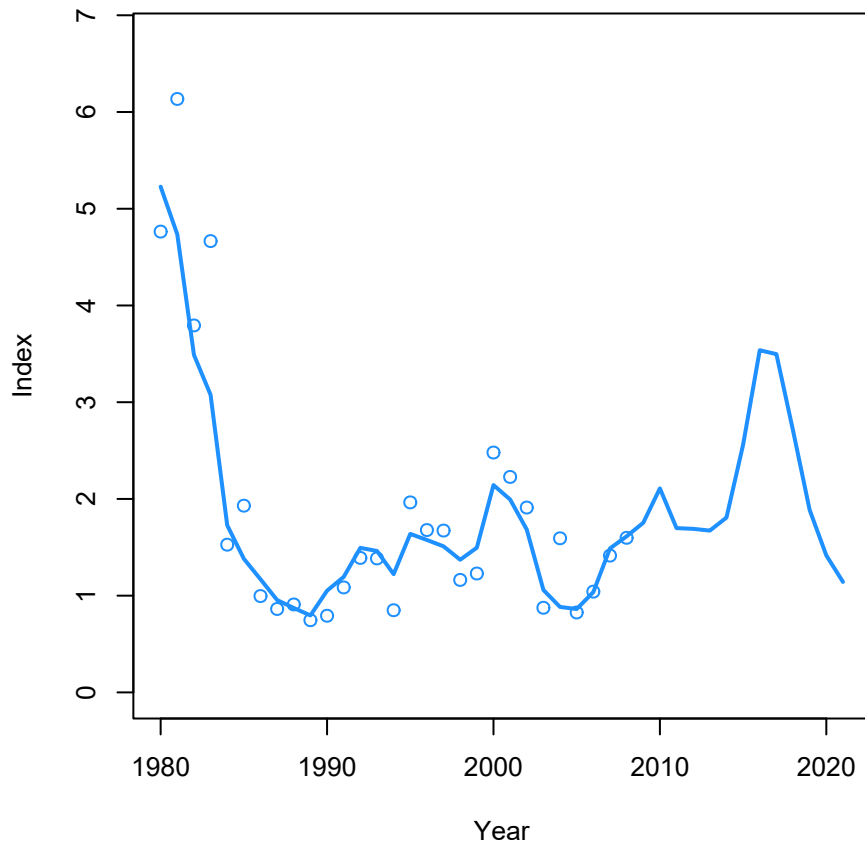


Conditional log-likelihood components  
Model: WHAM\_MT\_Run4 2022-09-15 21:51:24

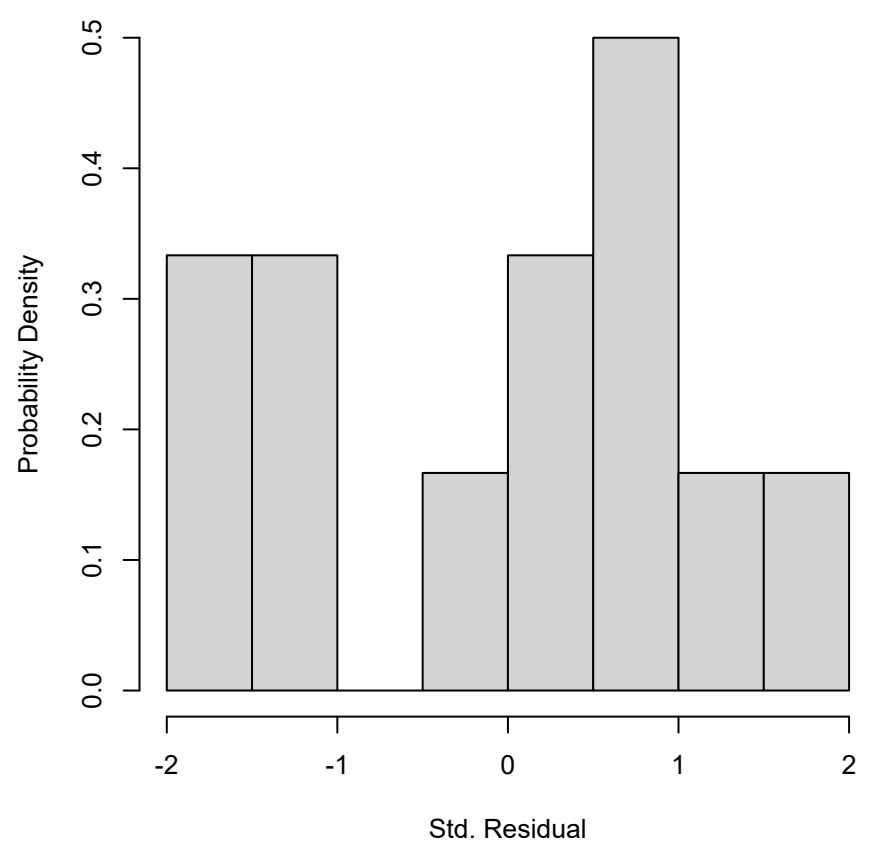
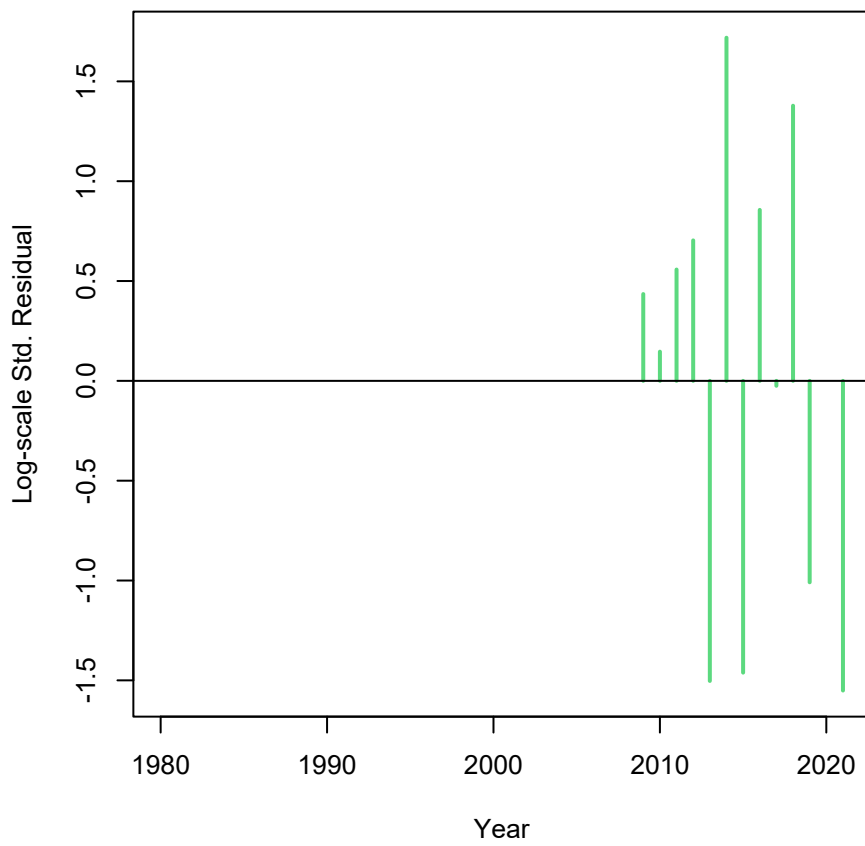
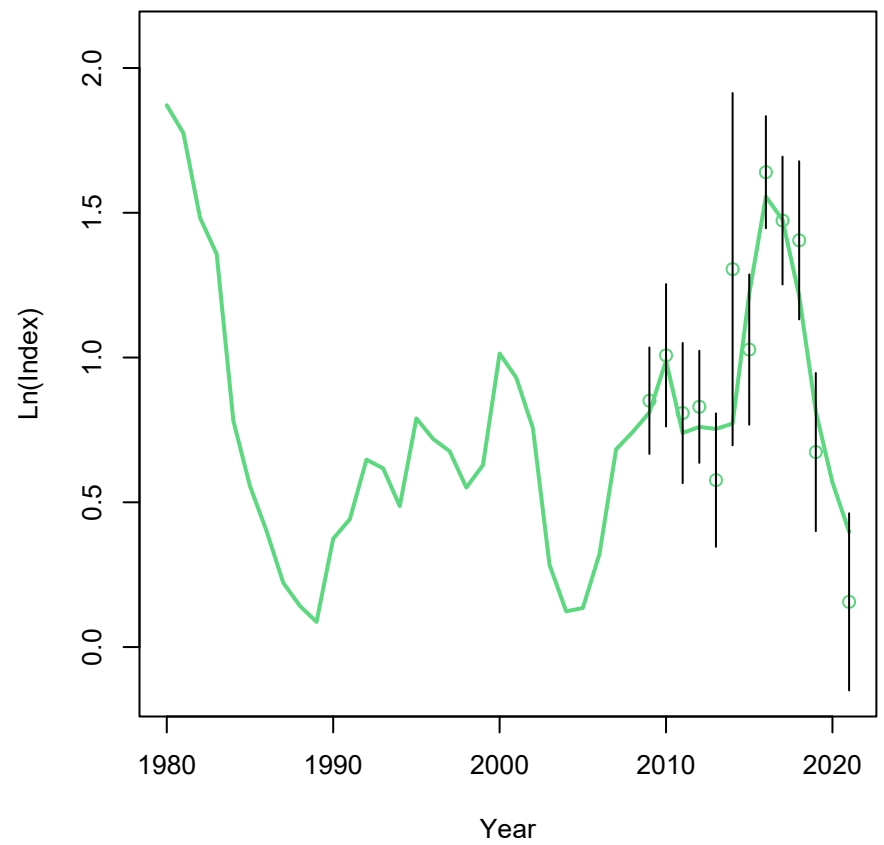
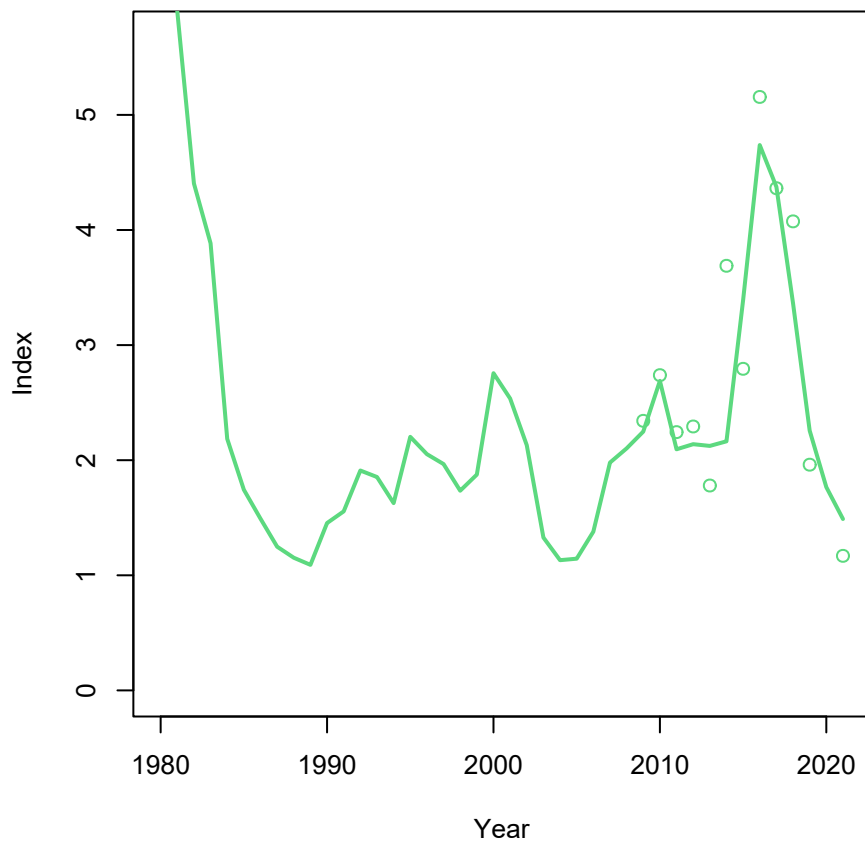
**Fleet 1 Catch**



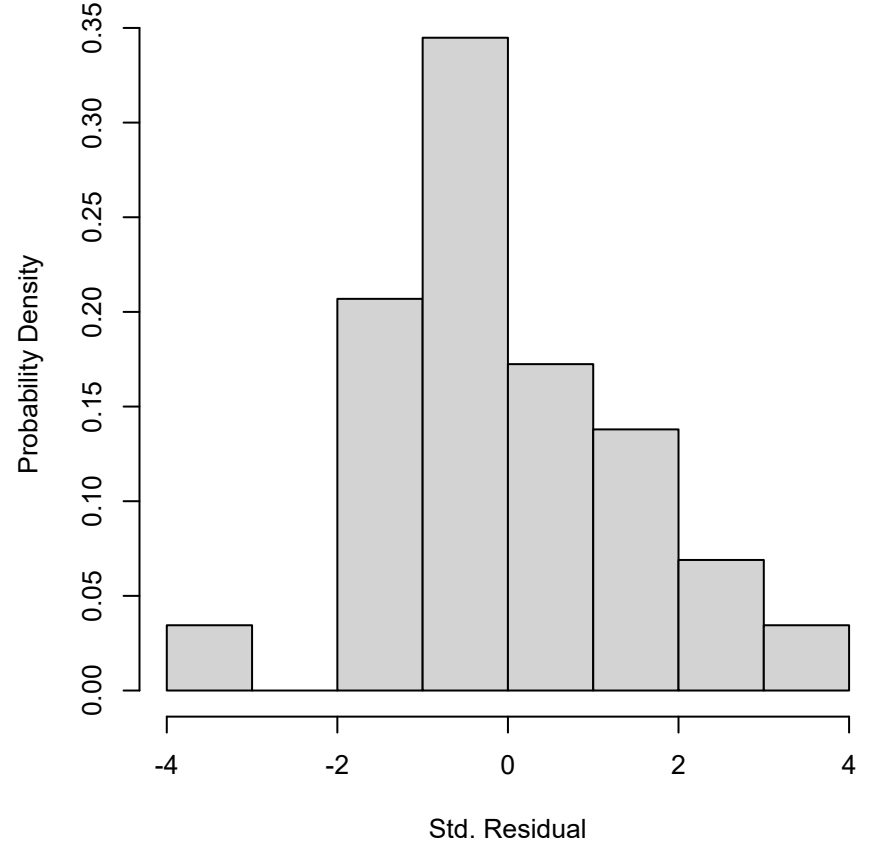
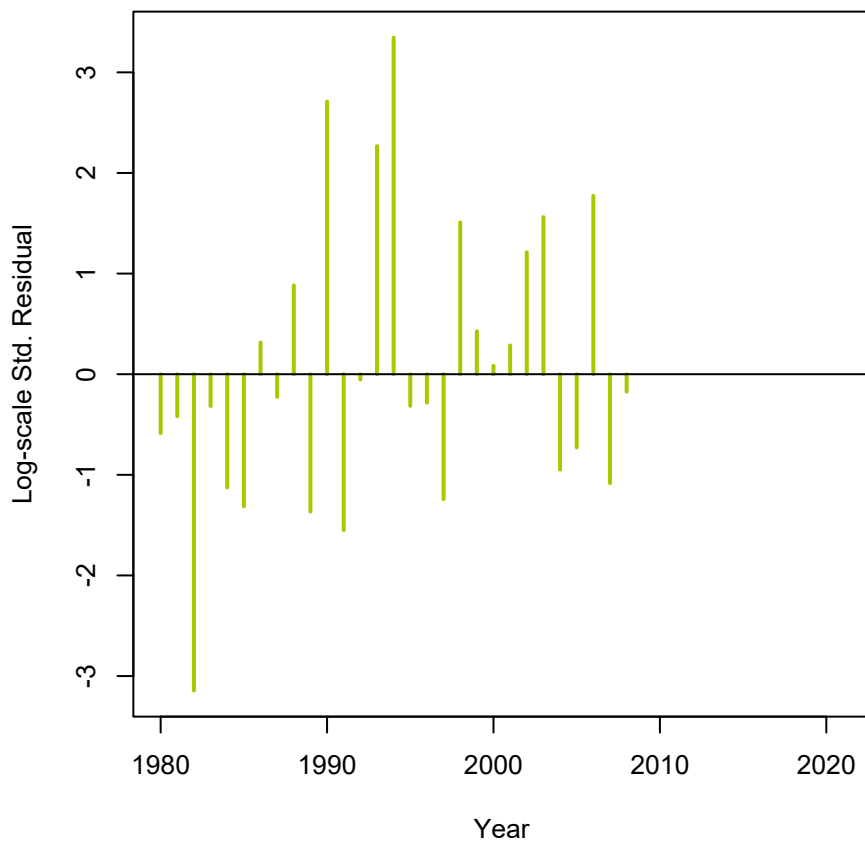
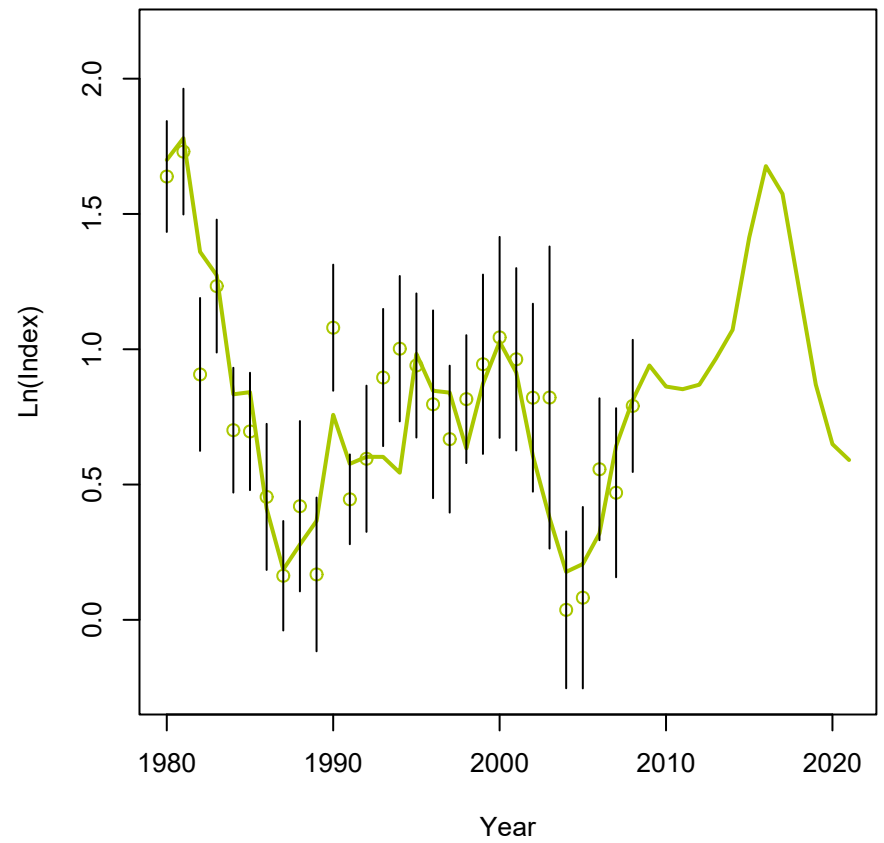
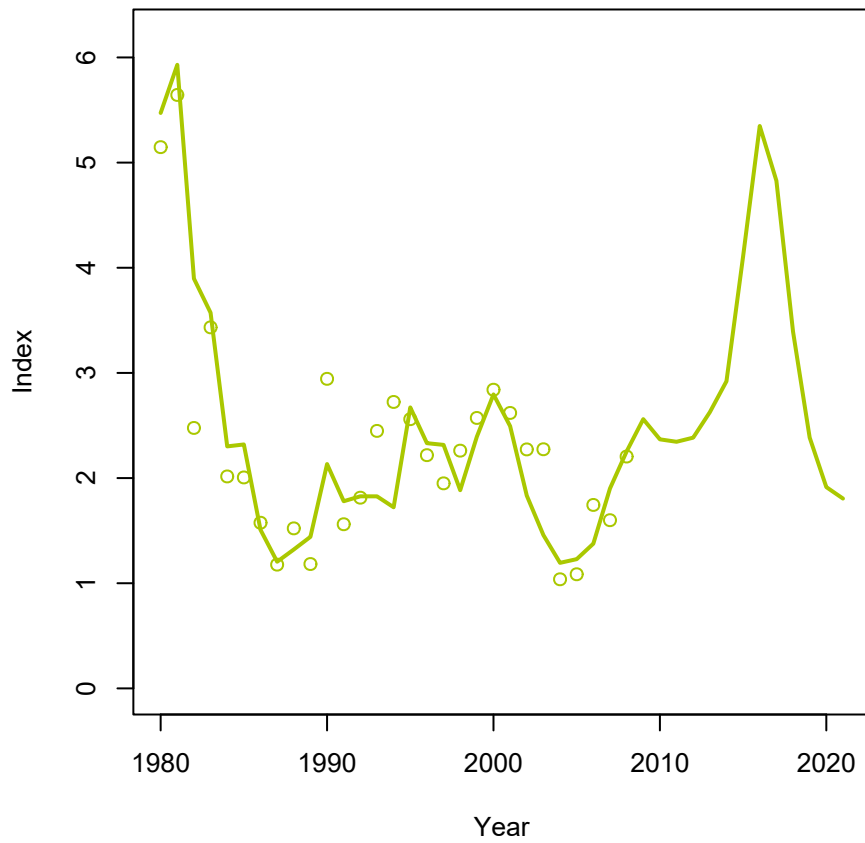
Index 1



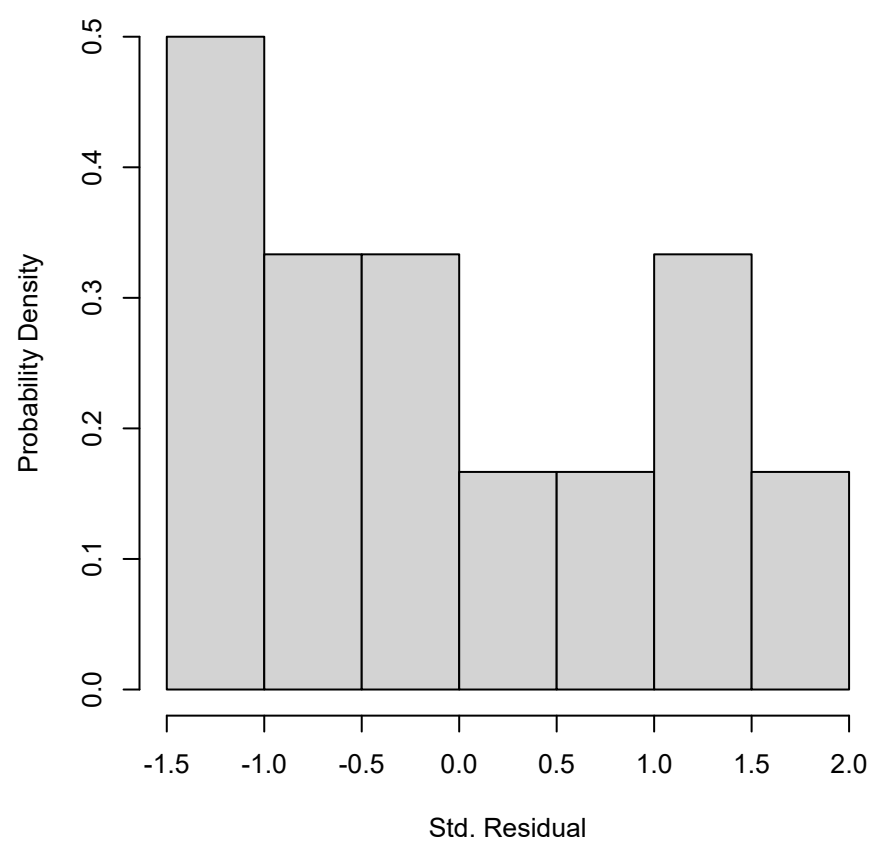
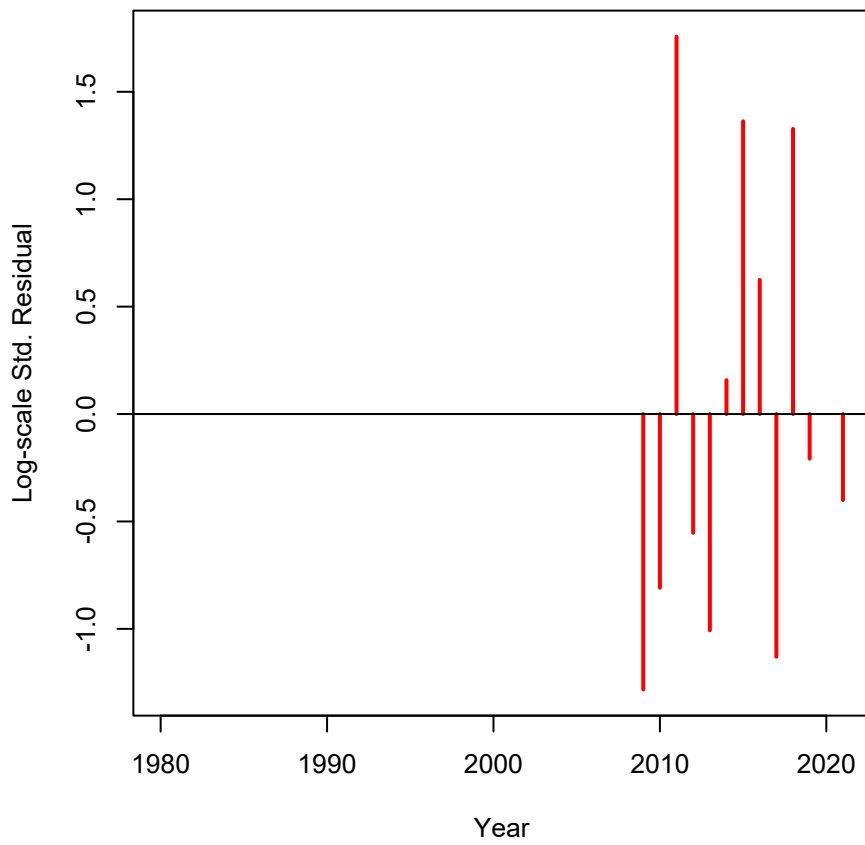
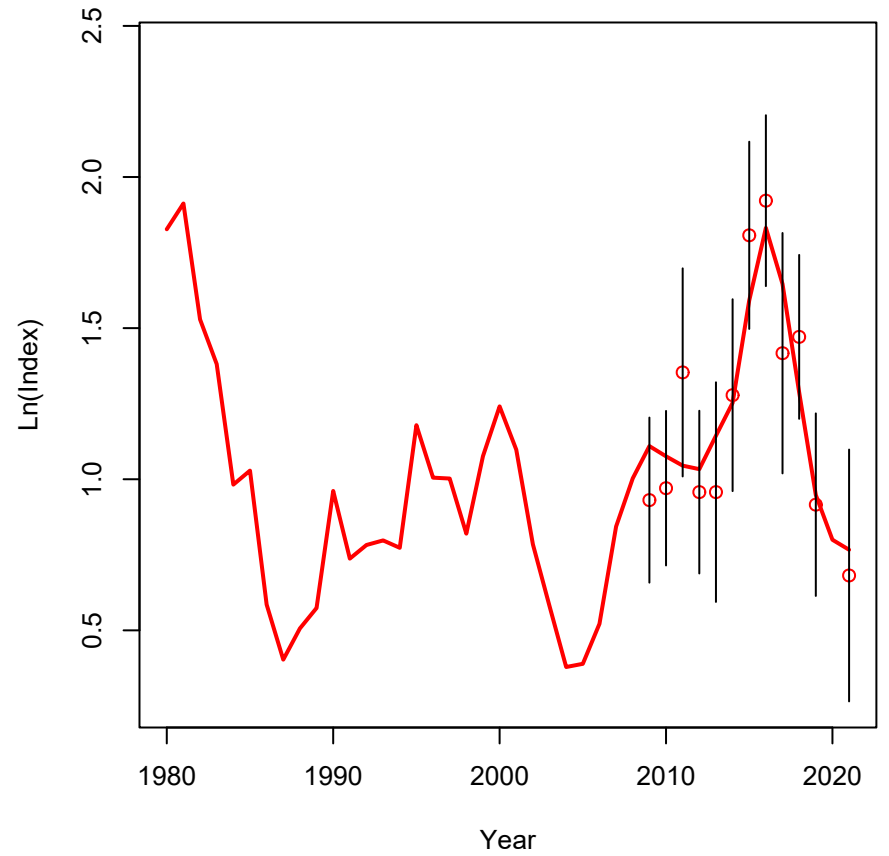
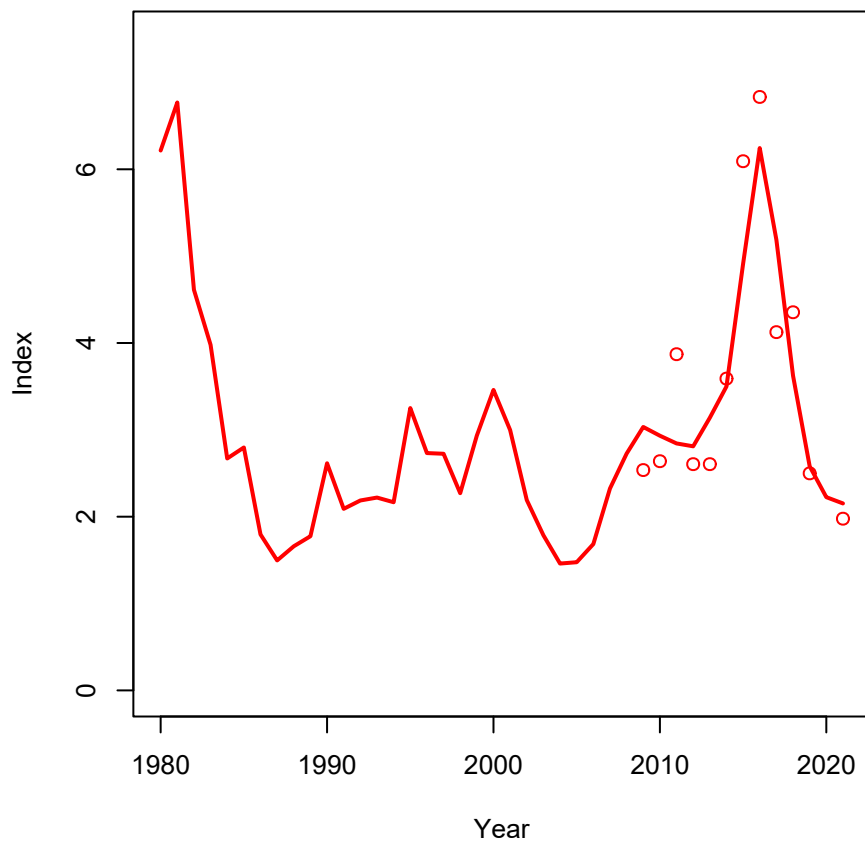
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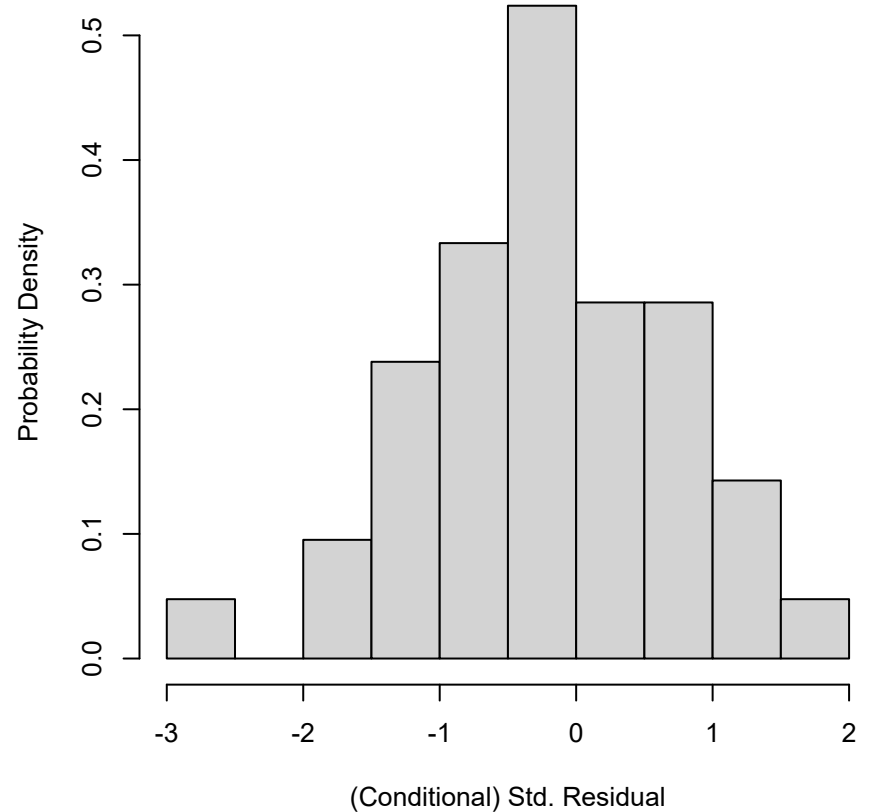
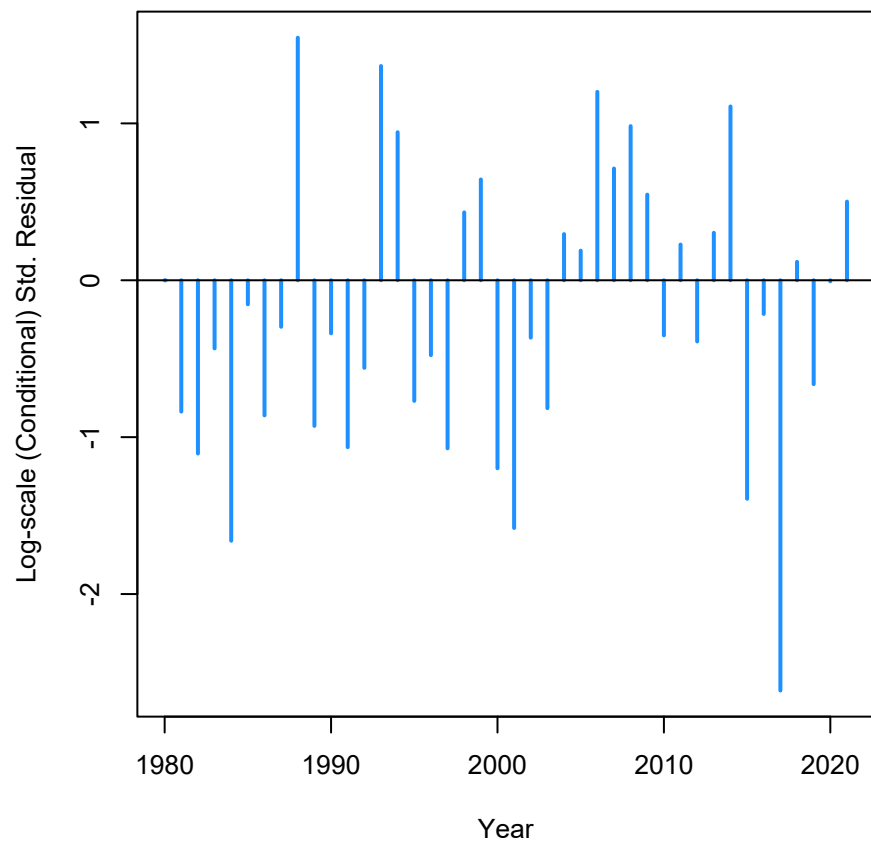
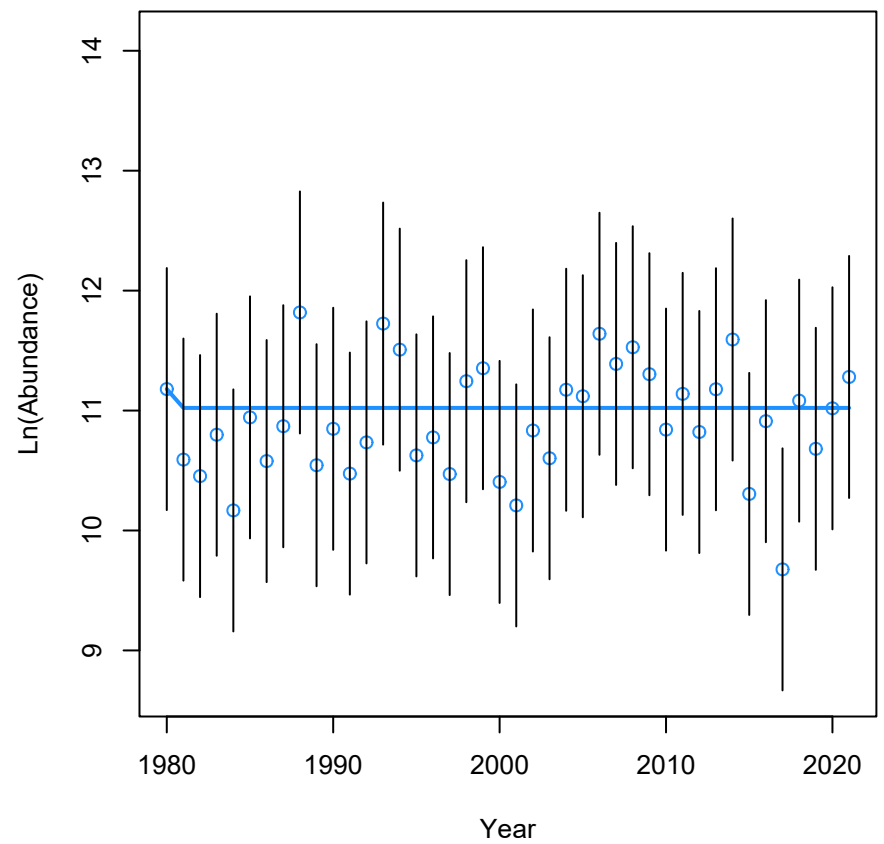
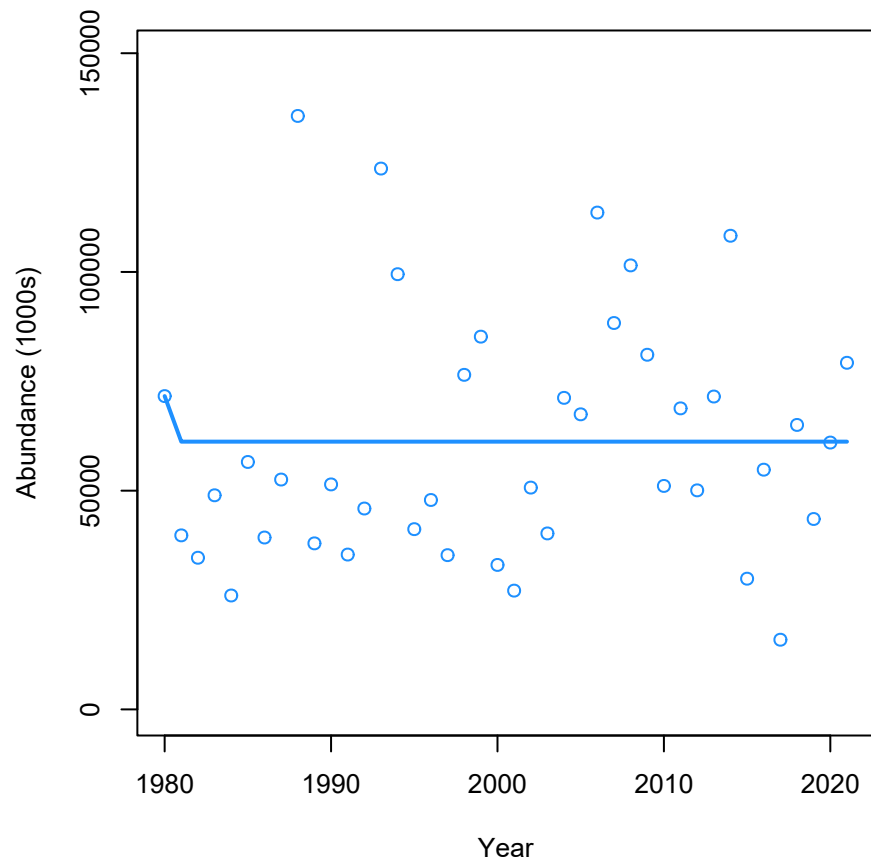
Index 3



Index 4

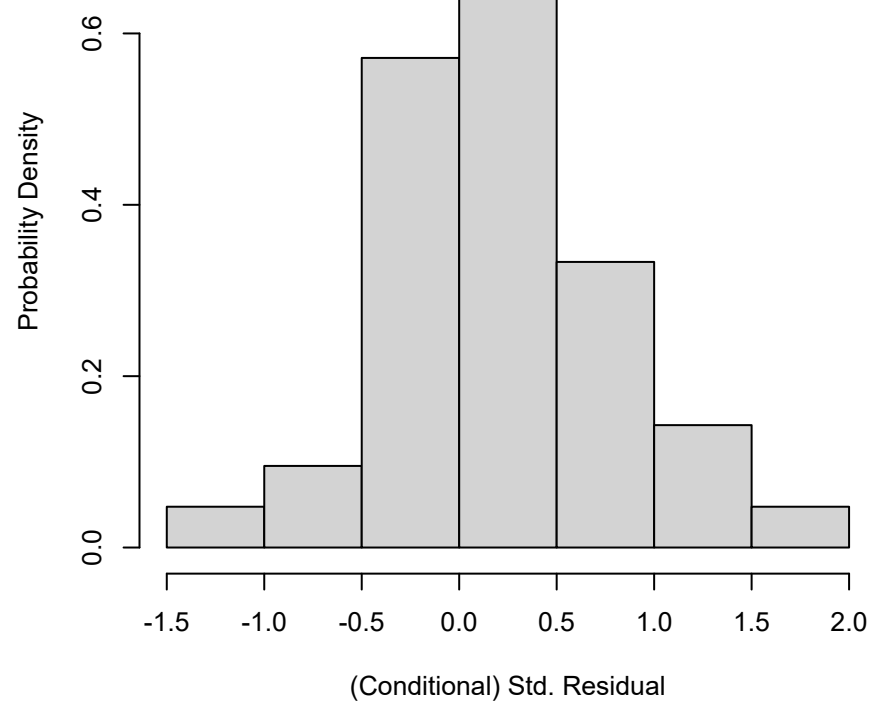
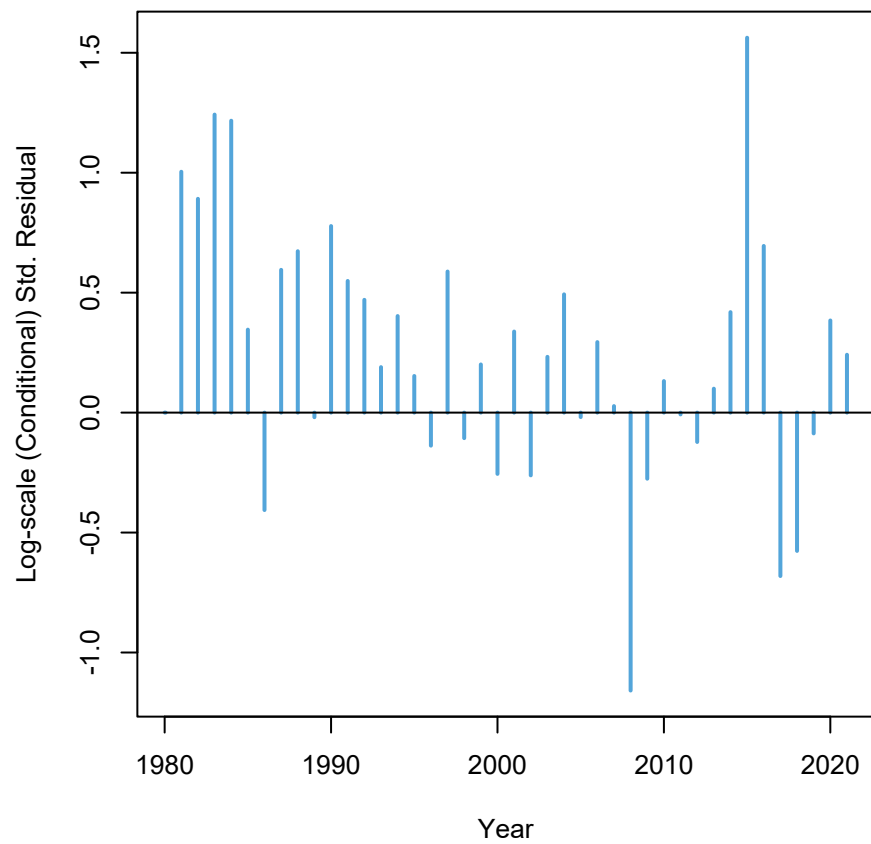
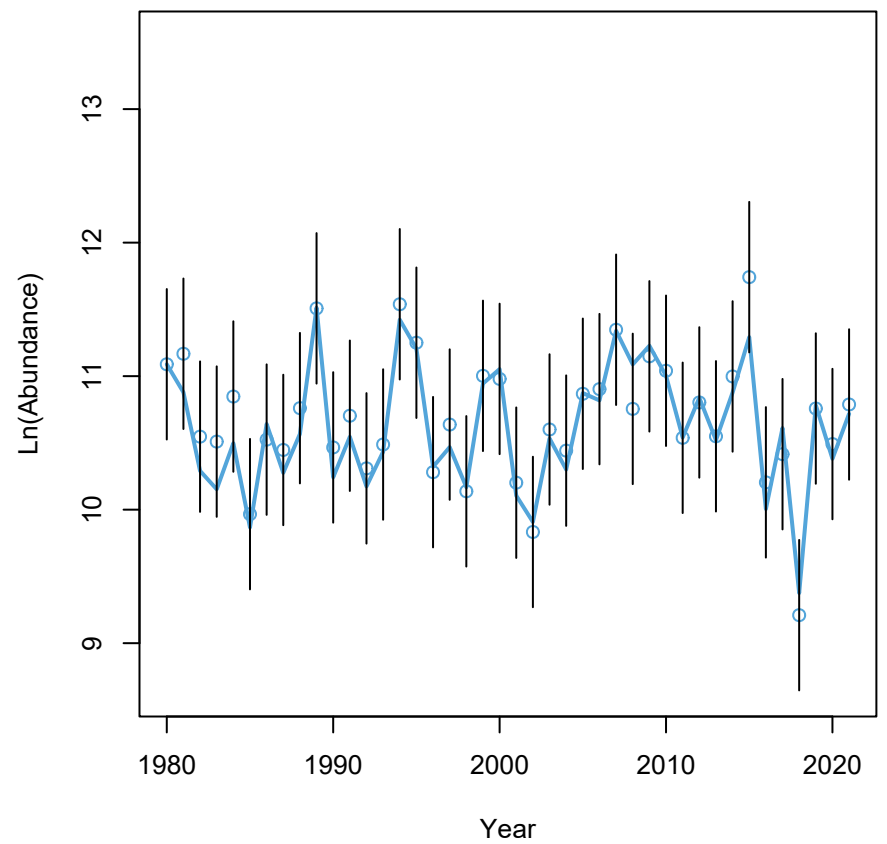
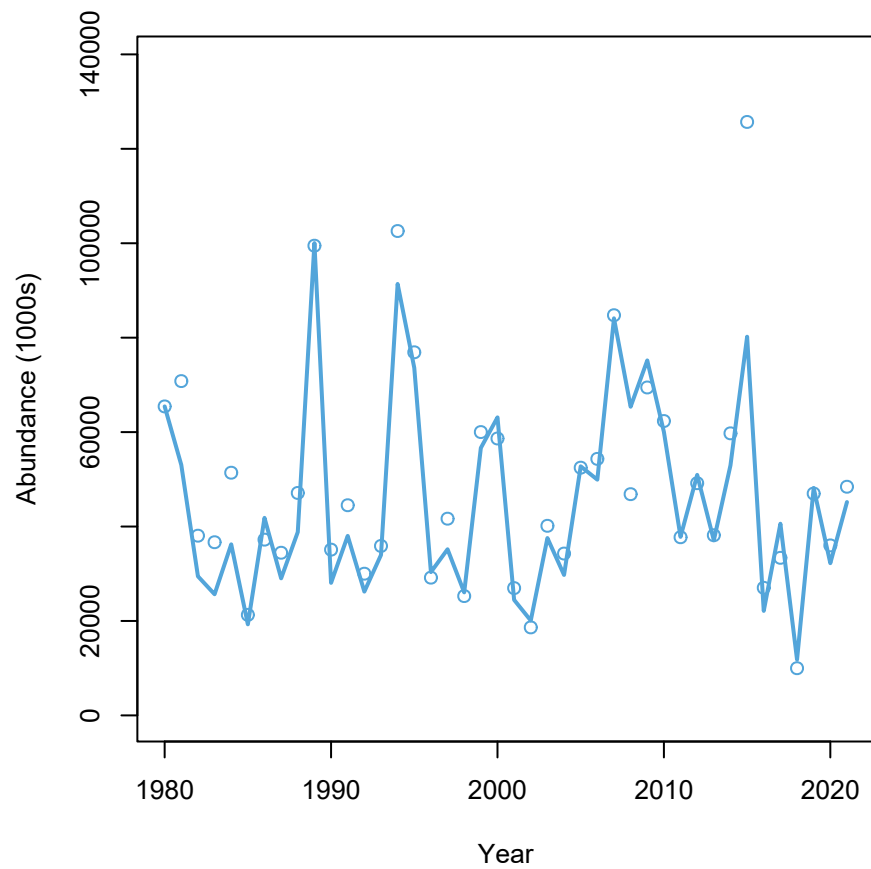


Conditional Expected and Posterior Estimates of Age 1 Abundance

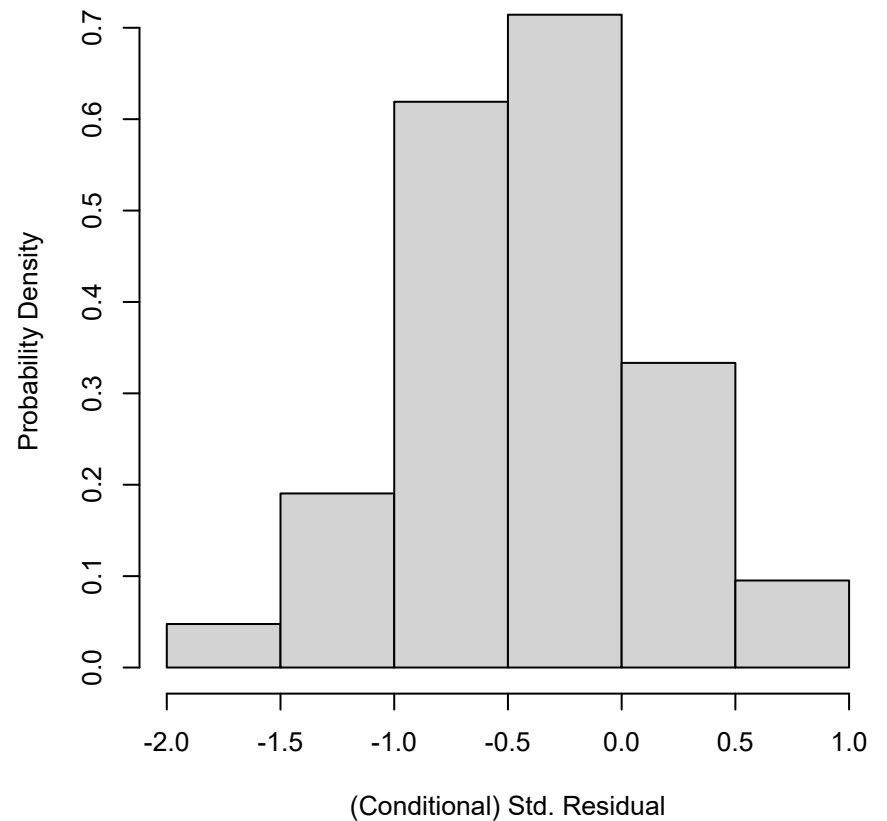
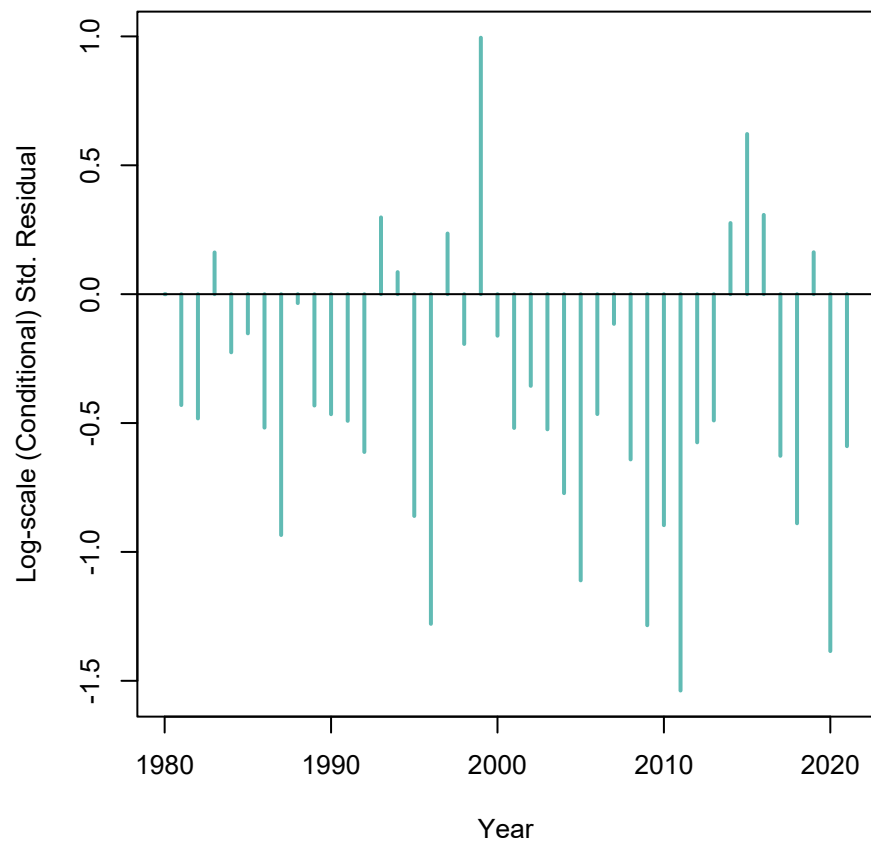
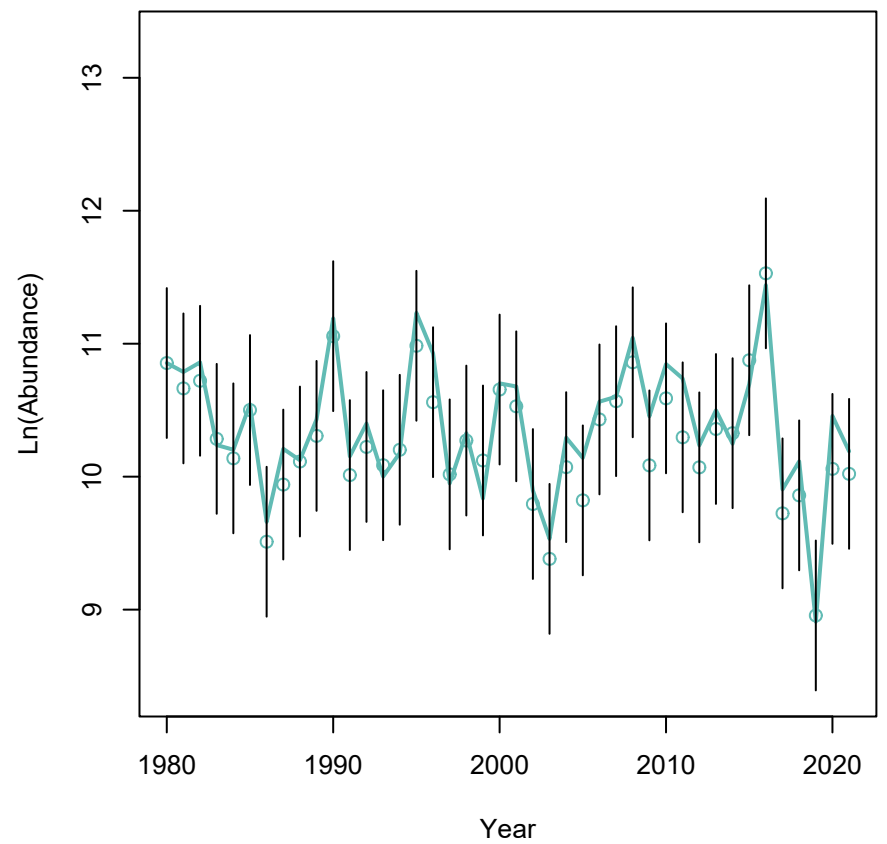
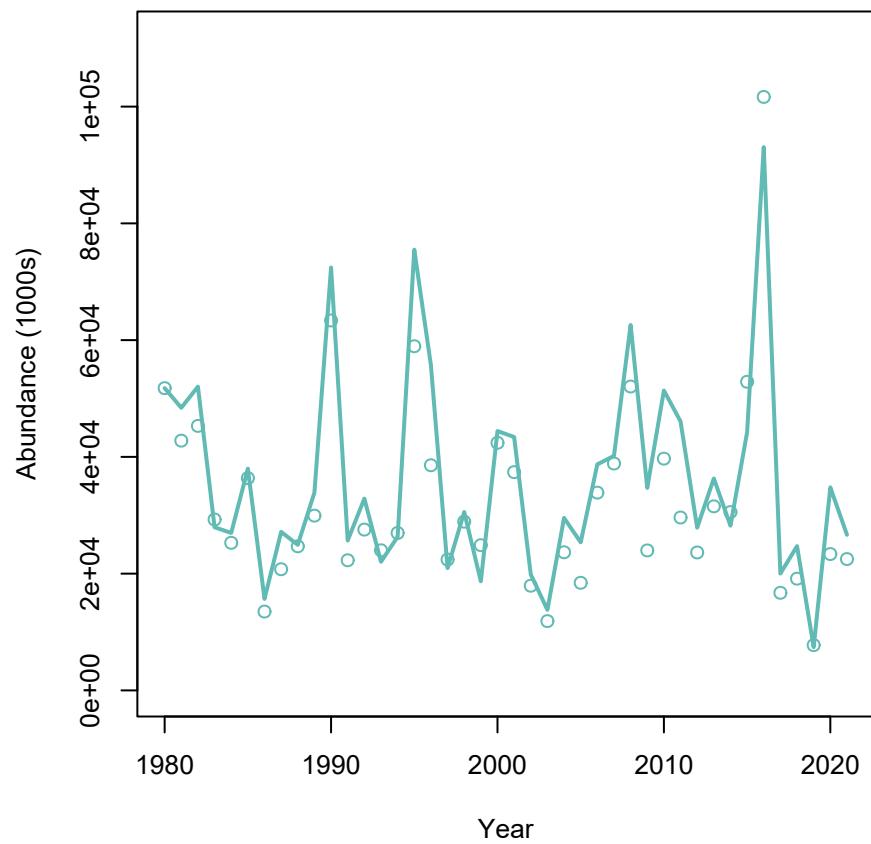




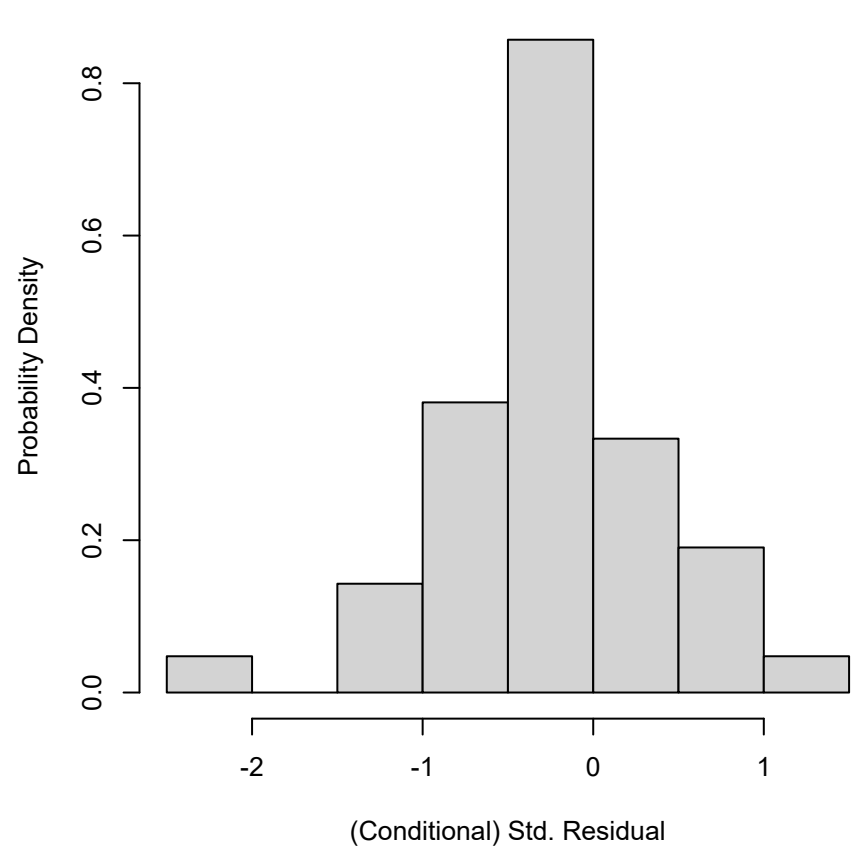
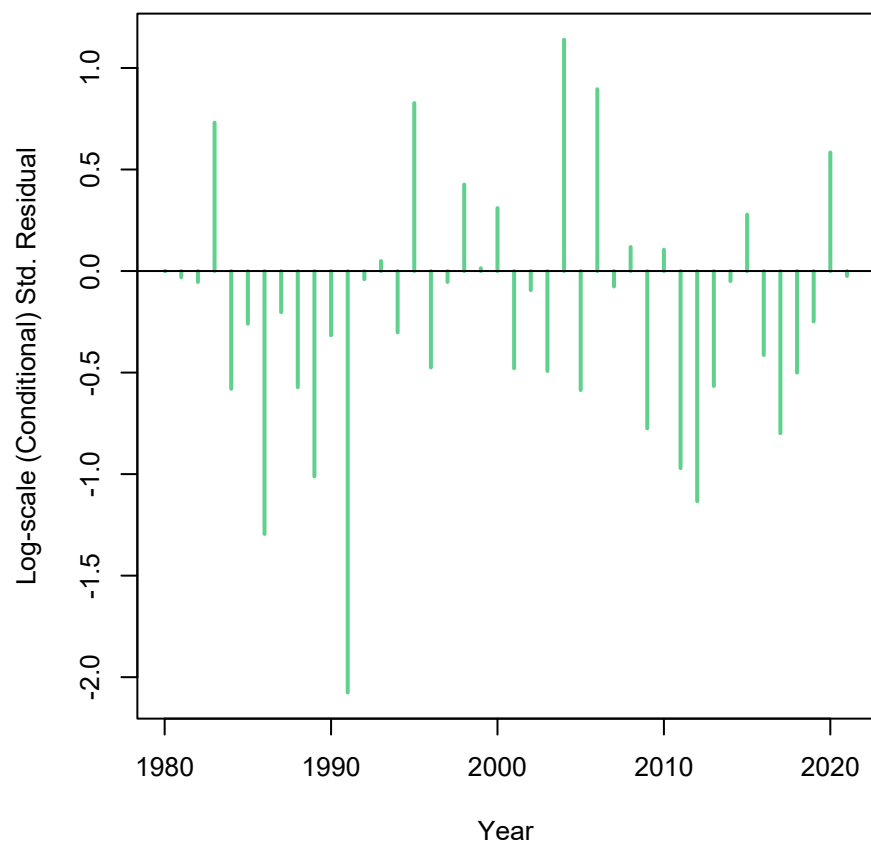
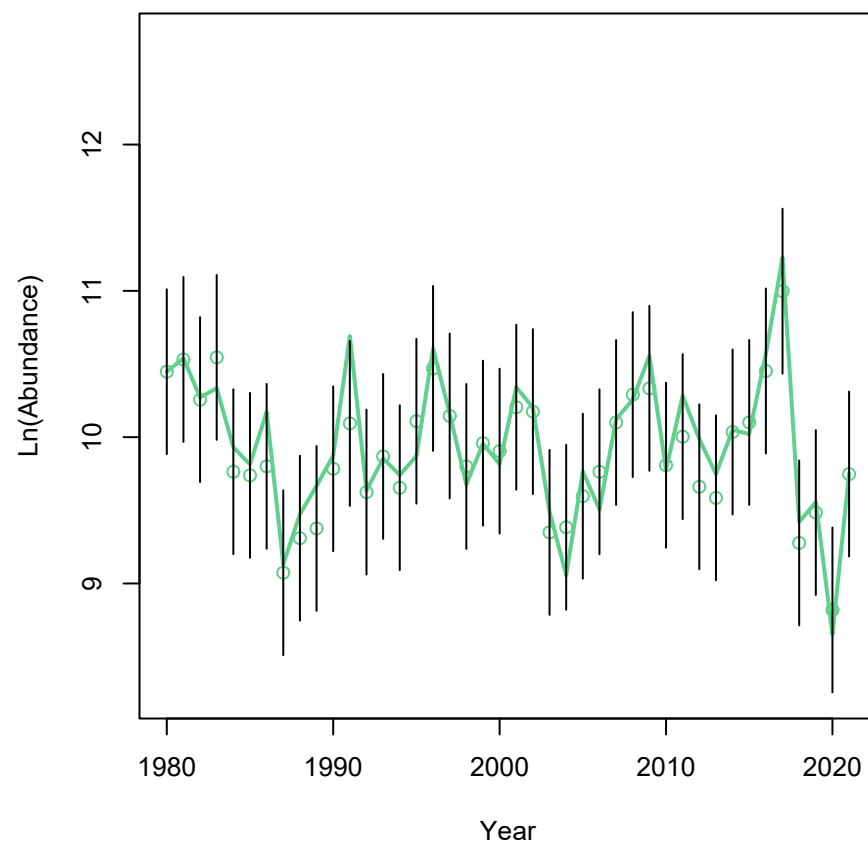
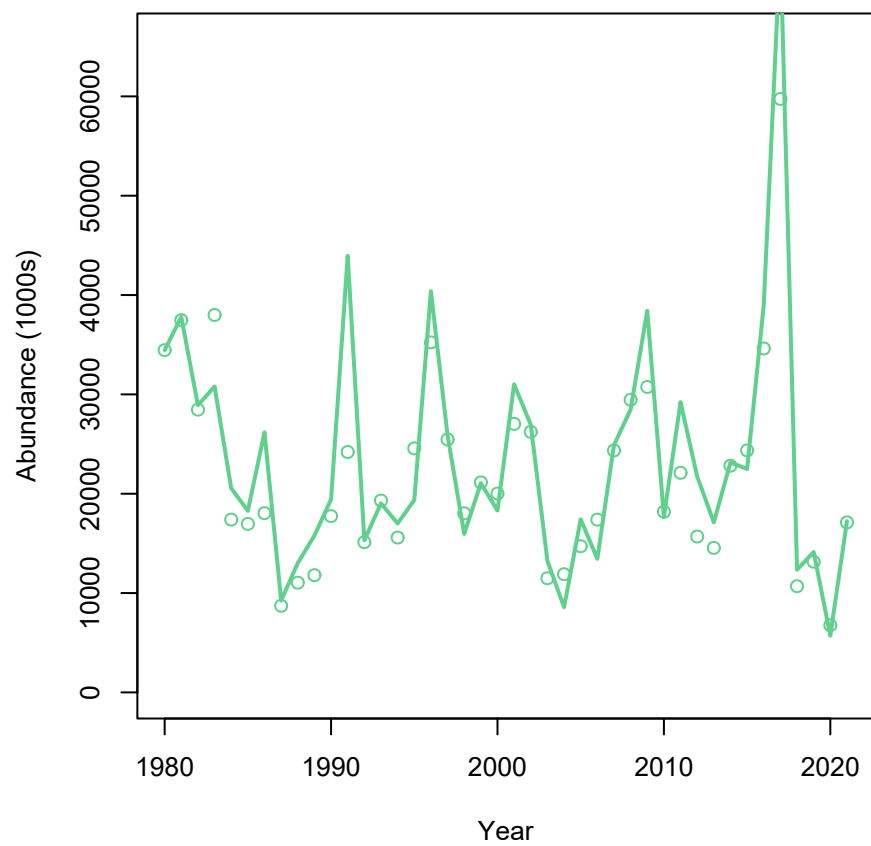
Conditional Expected and Posterior Estimates of Age 2 Abundance



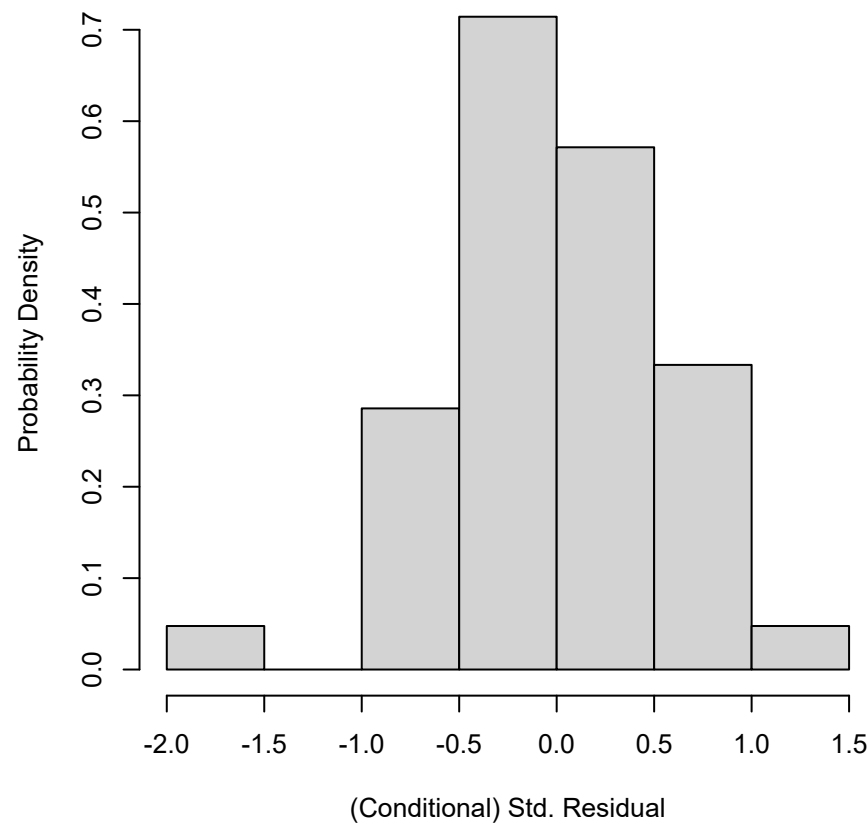
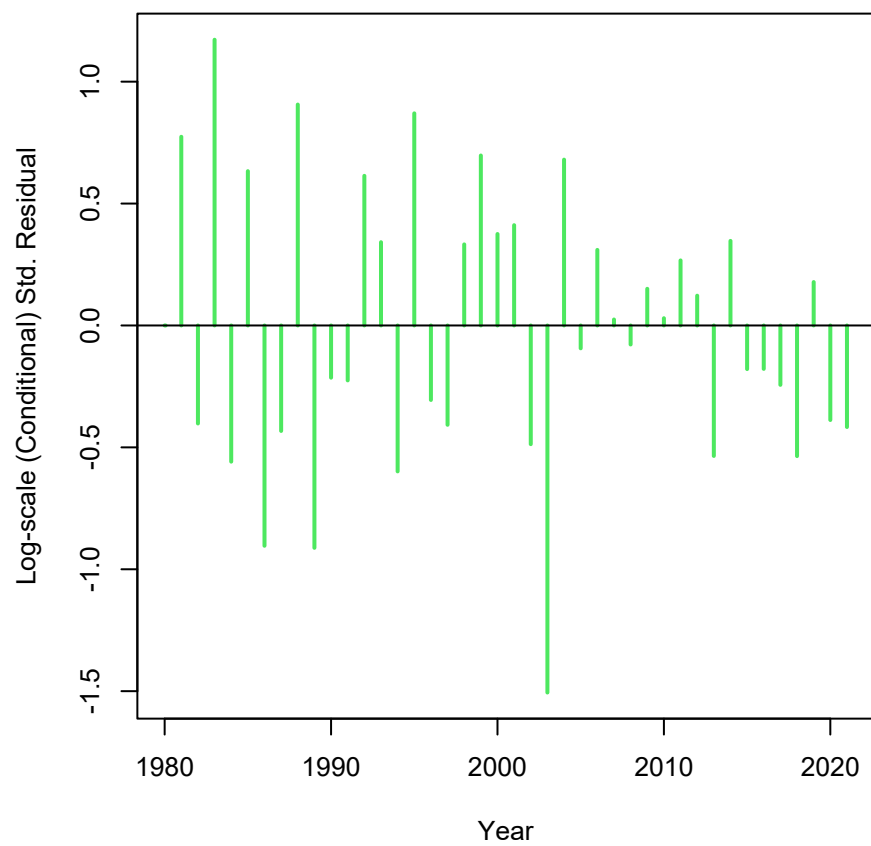
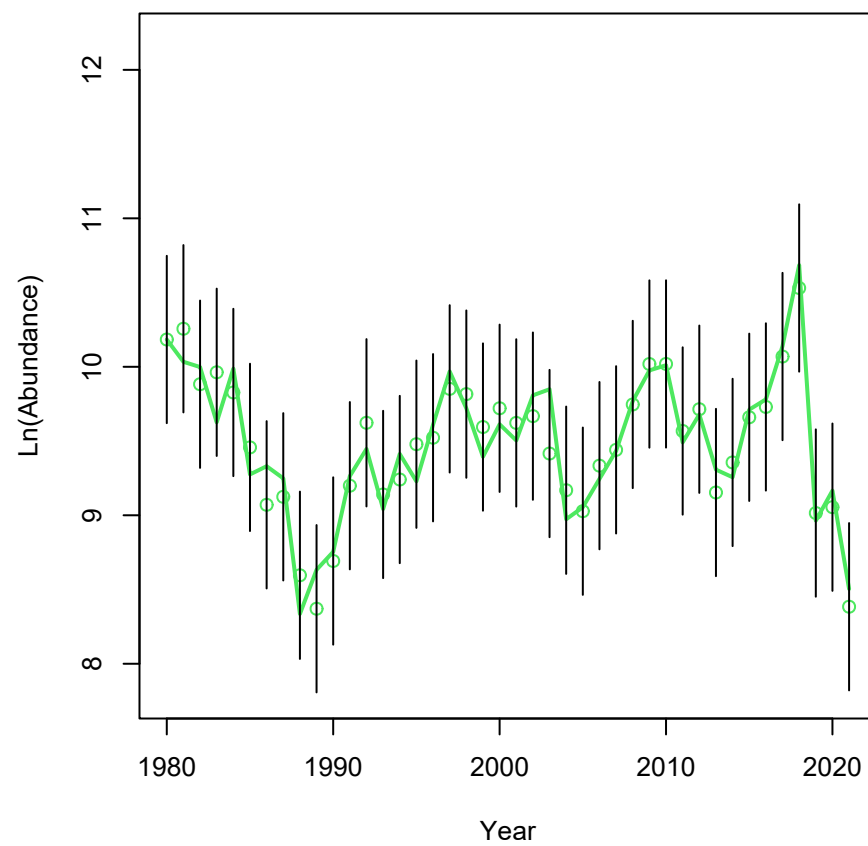
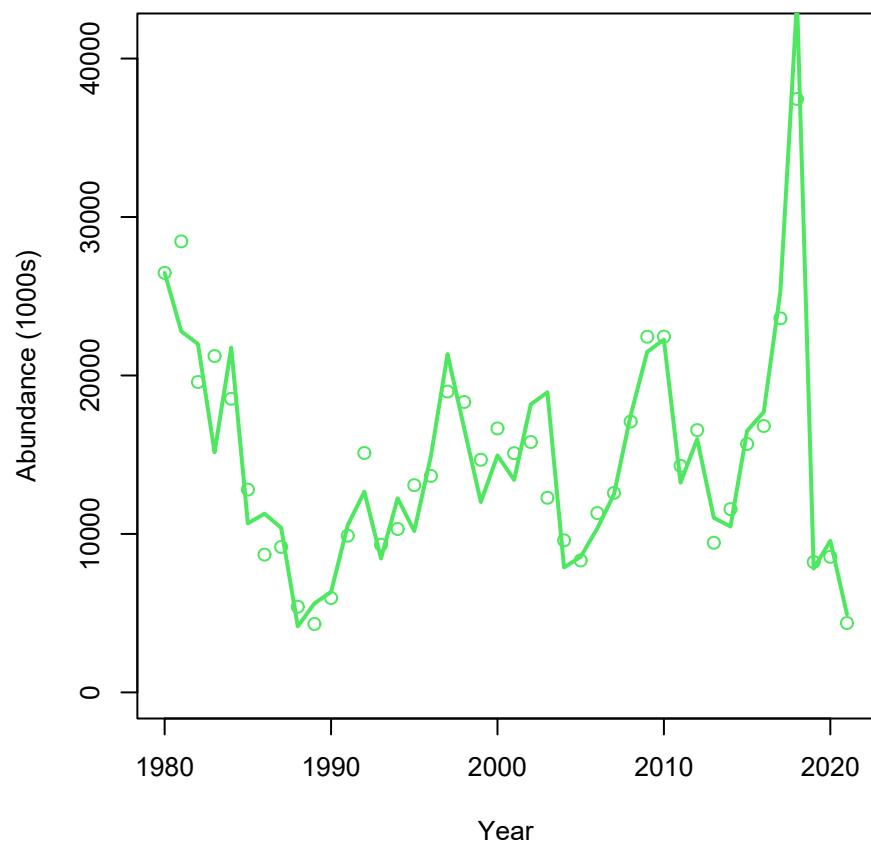
# Conditional Expected and Posterior Estimates of Age 3 Abundance



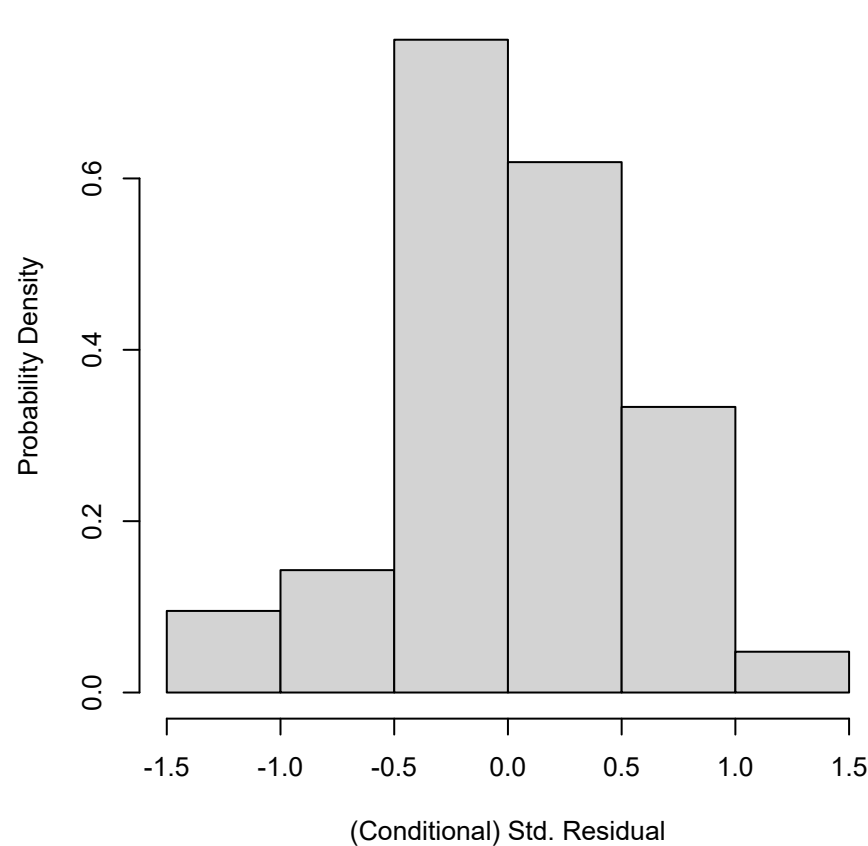
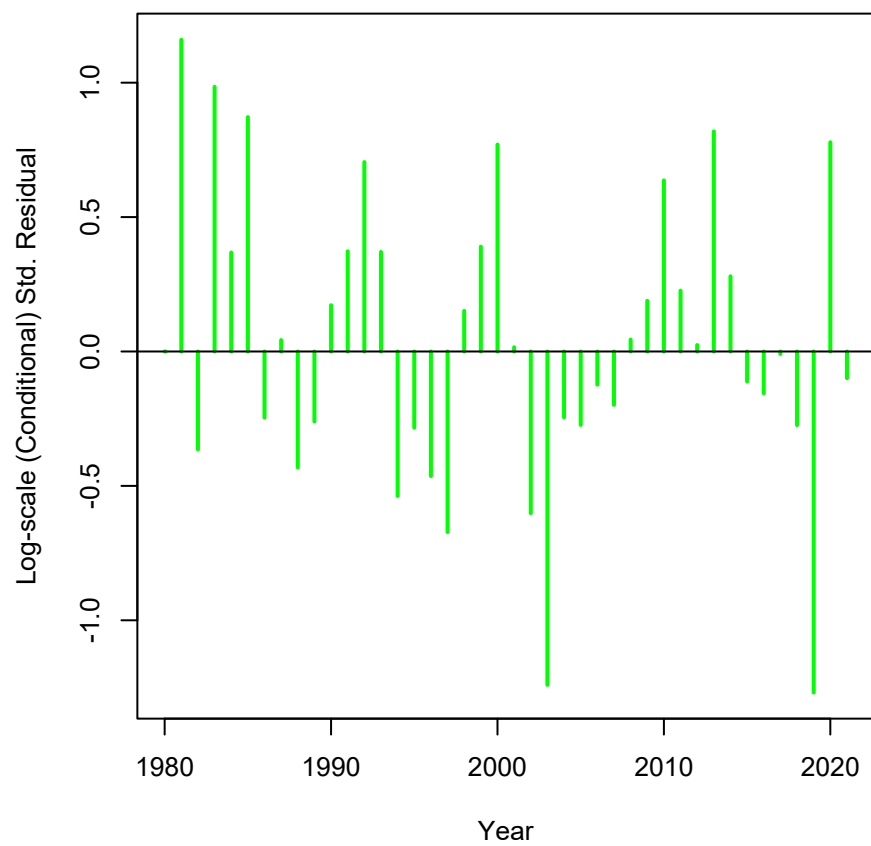
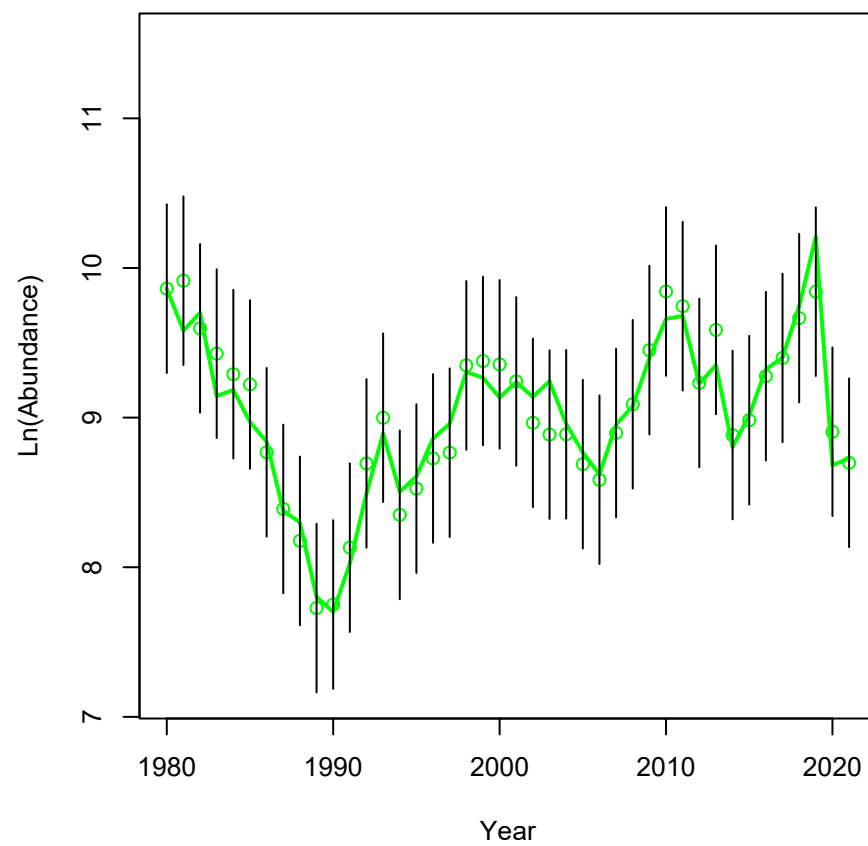
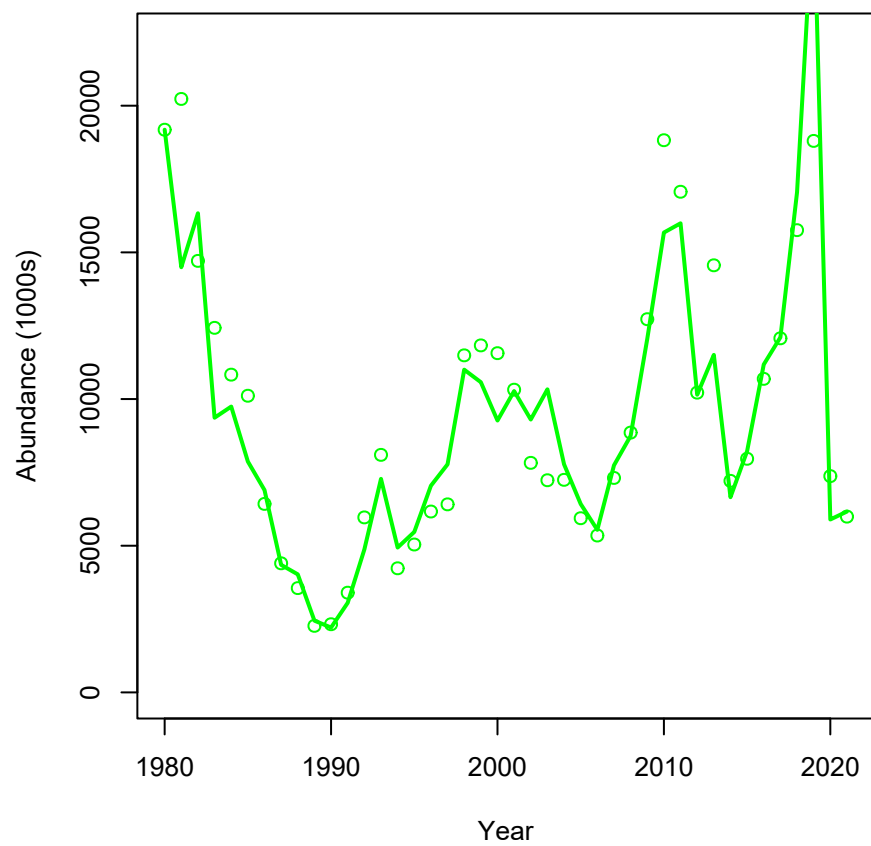
Conditional Expected and Posterior Estimates of Age 4 Abundance



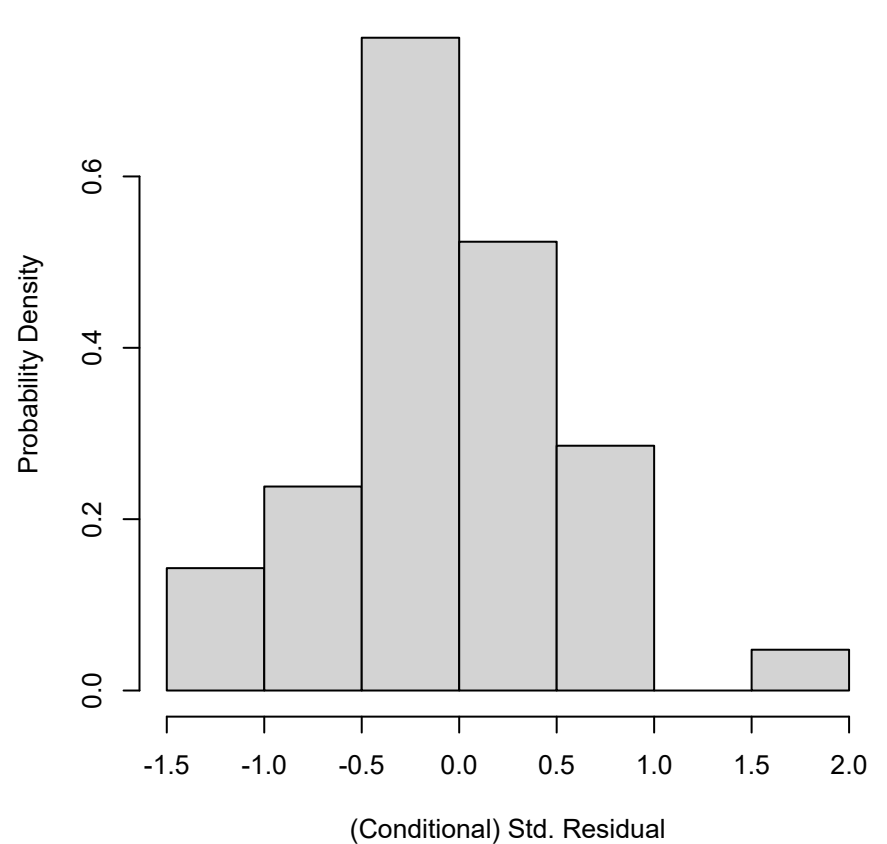
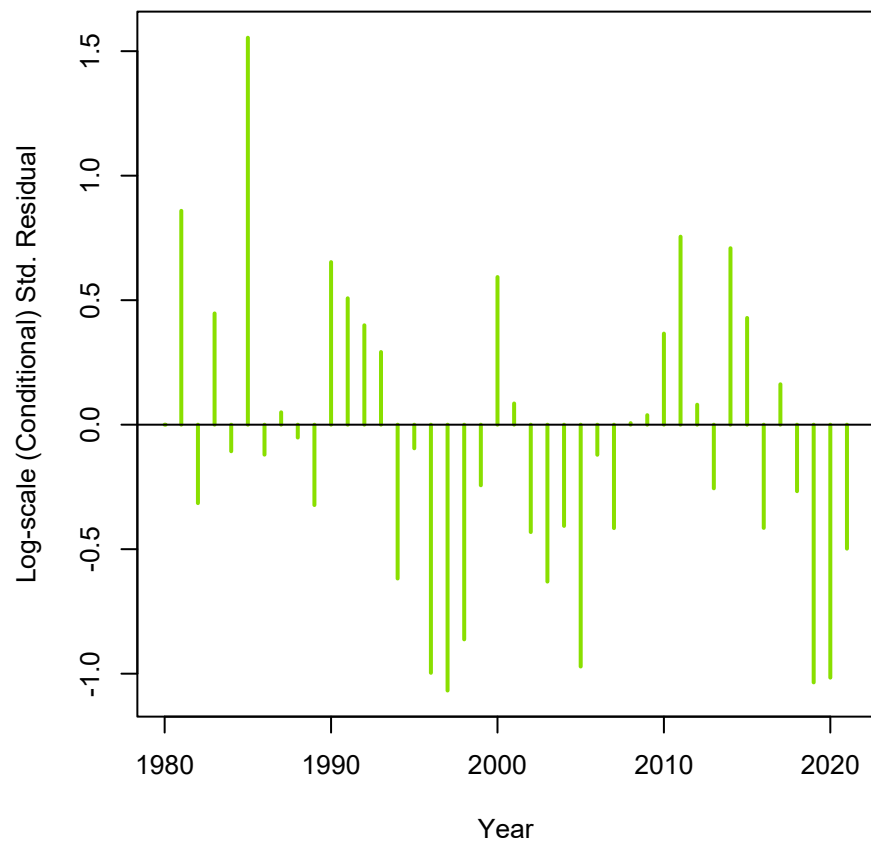
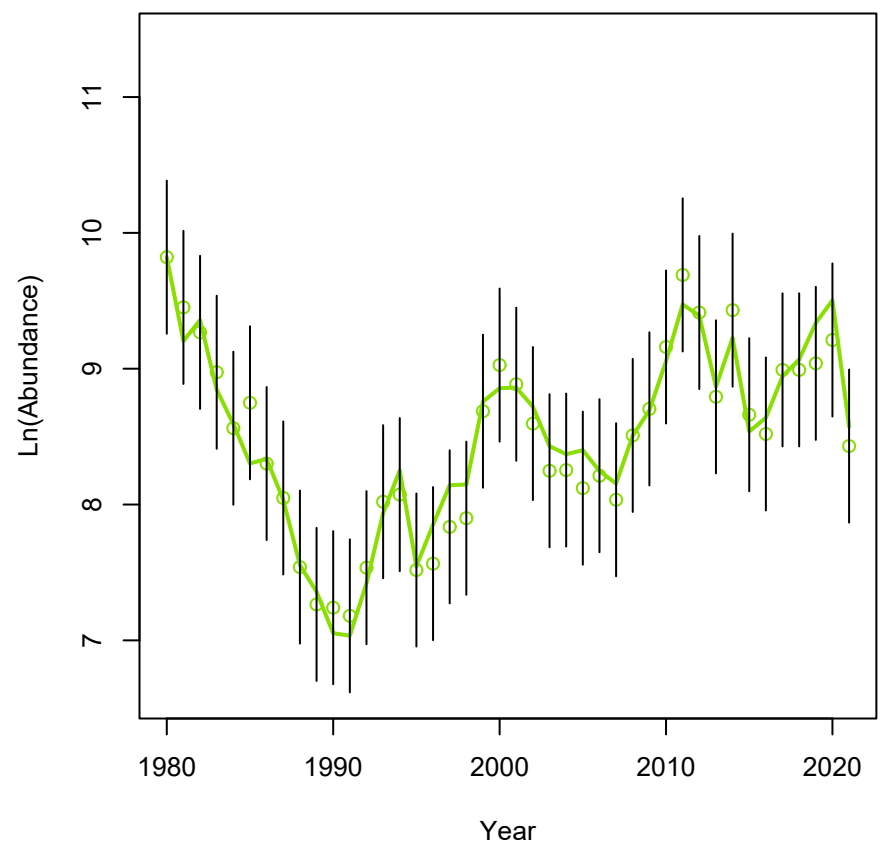
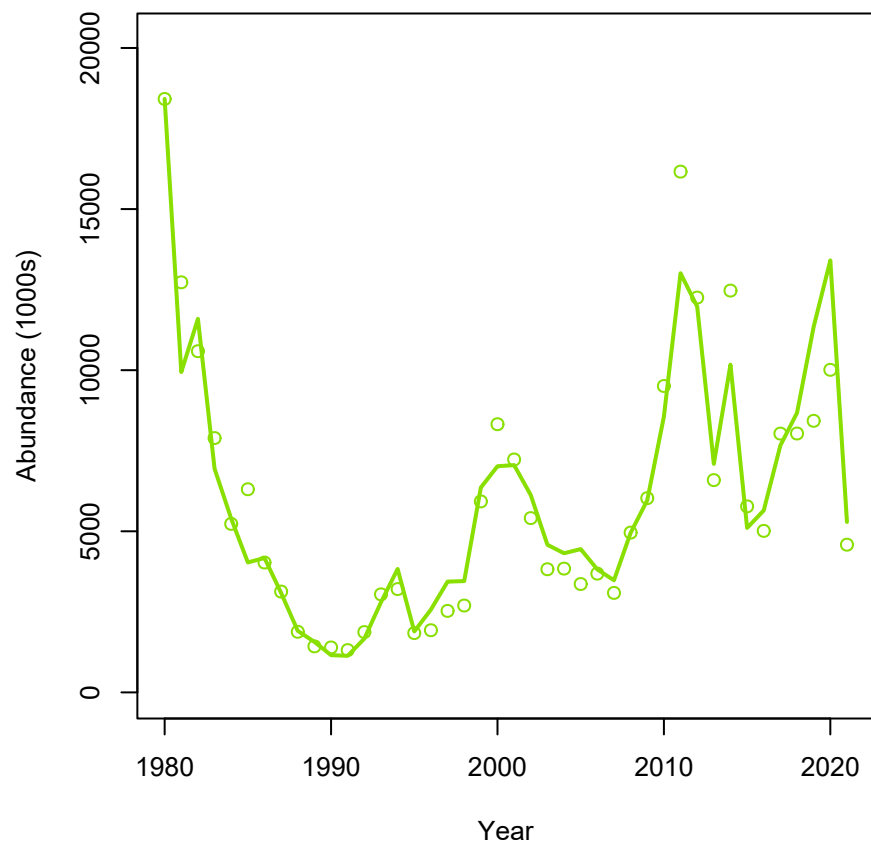
Conditional Expected and Posterior Estimates of Age 5 Abundance



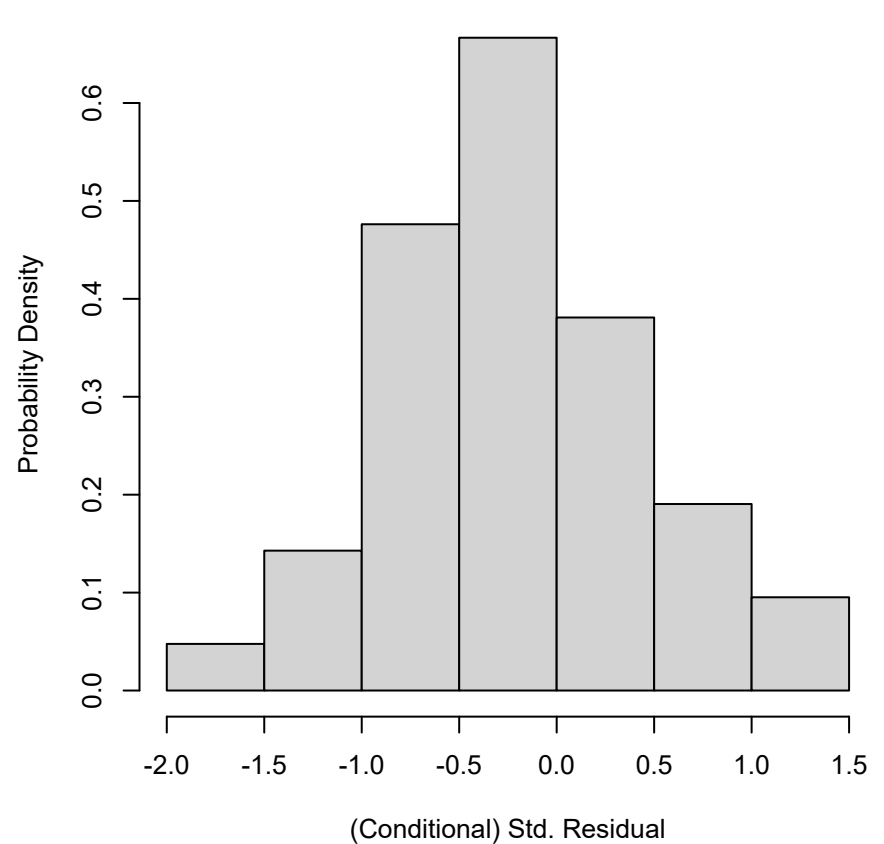
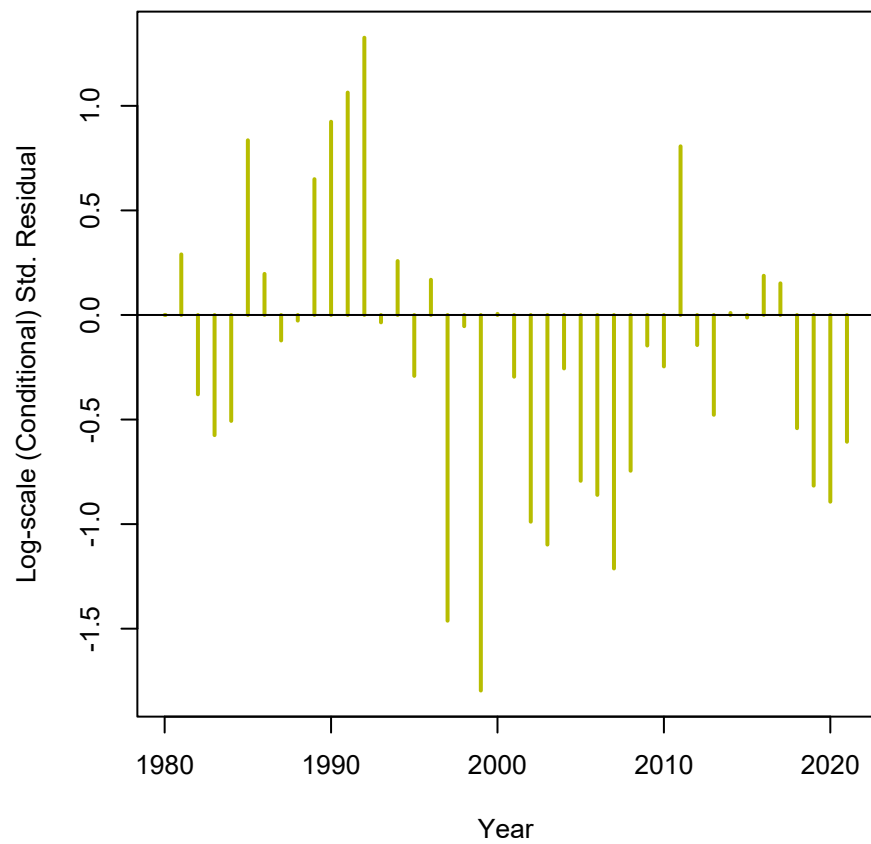
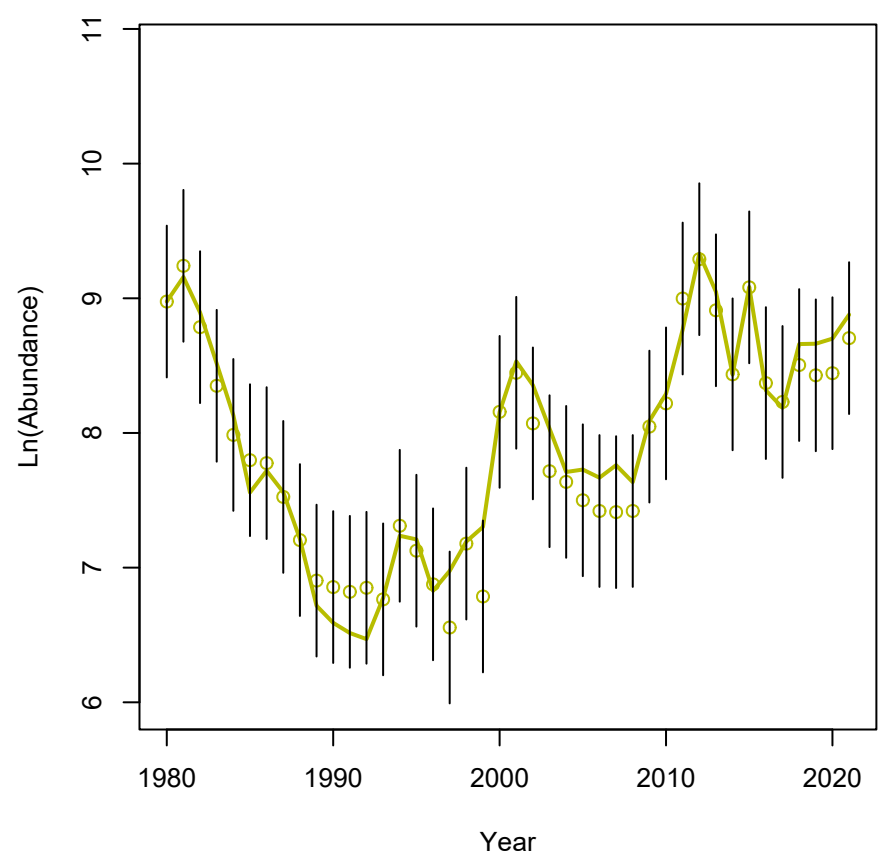
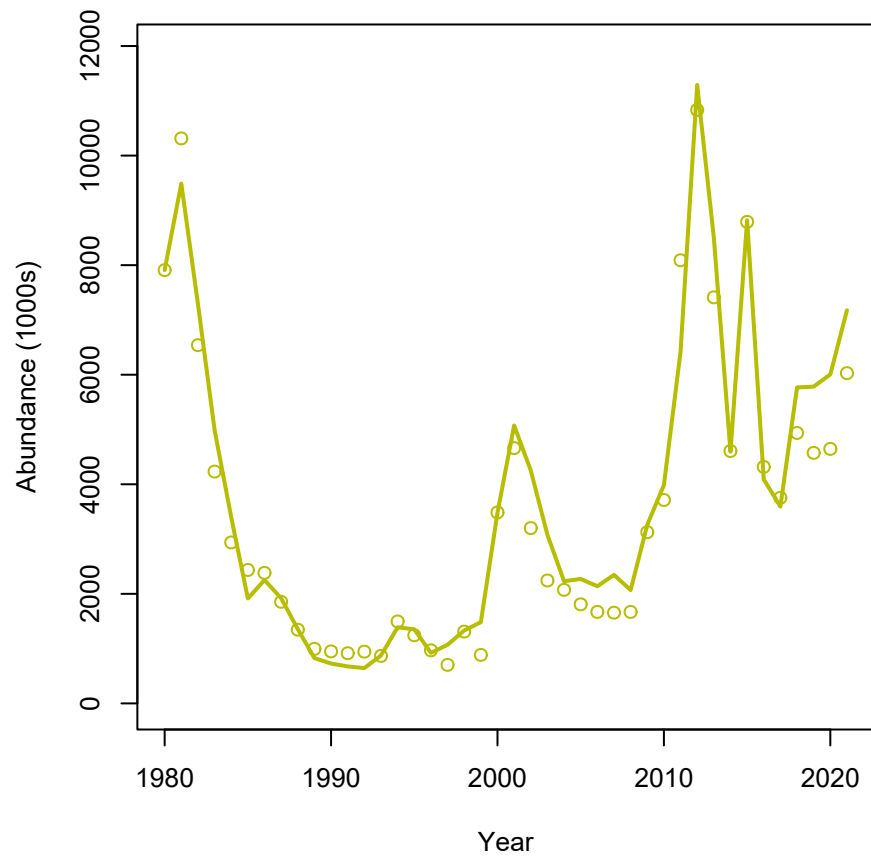
Conditional Expected and Posterior Estimates of Age 6 Abundance



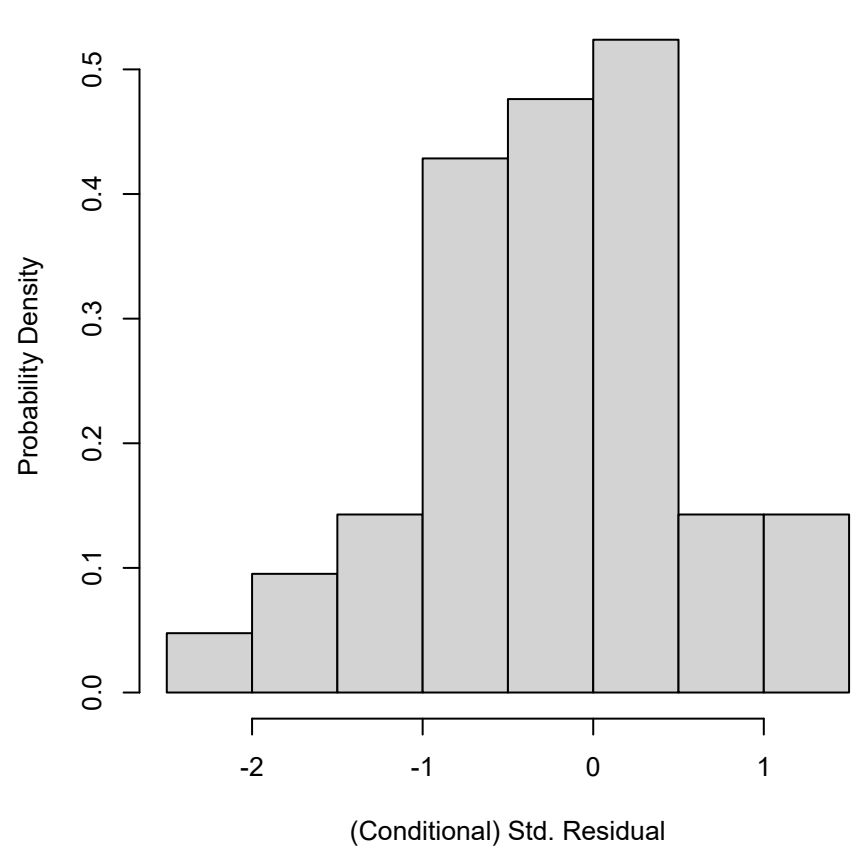
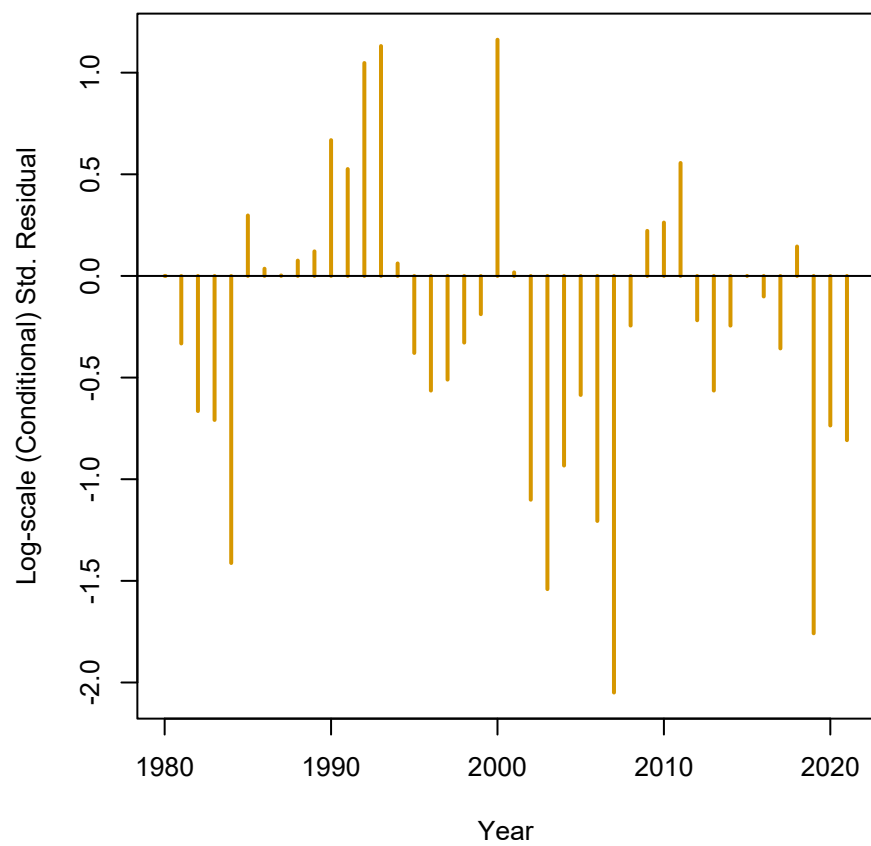
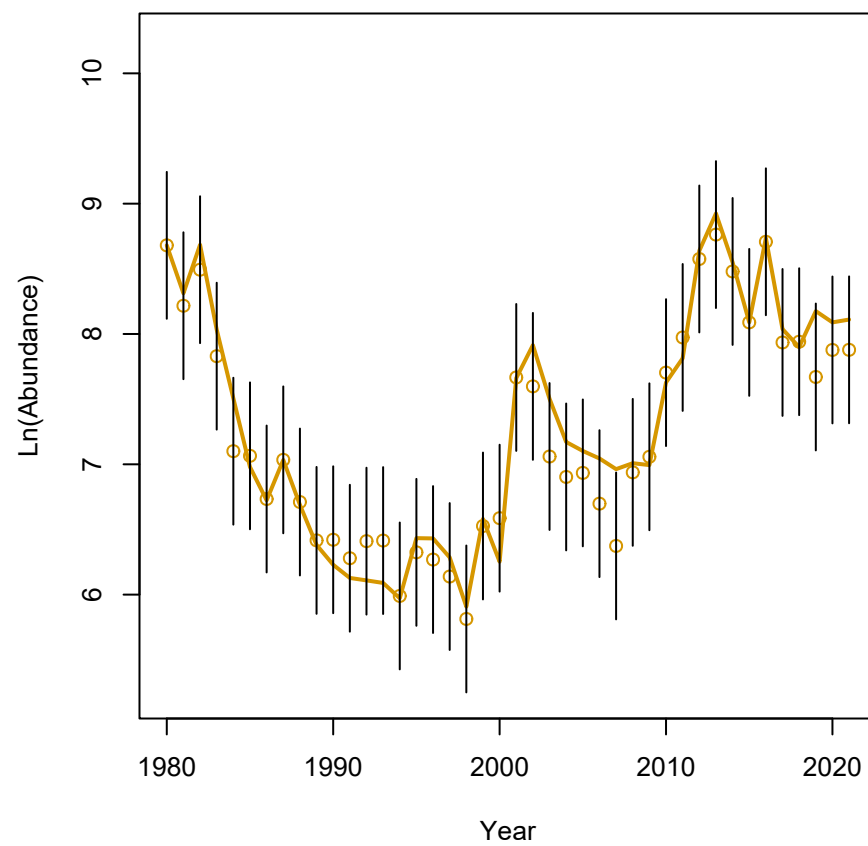
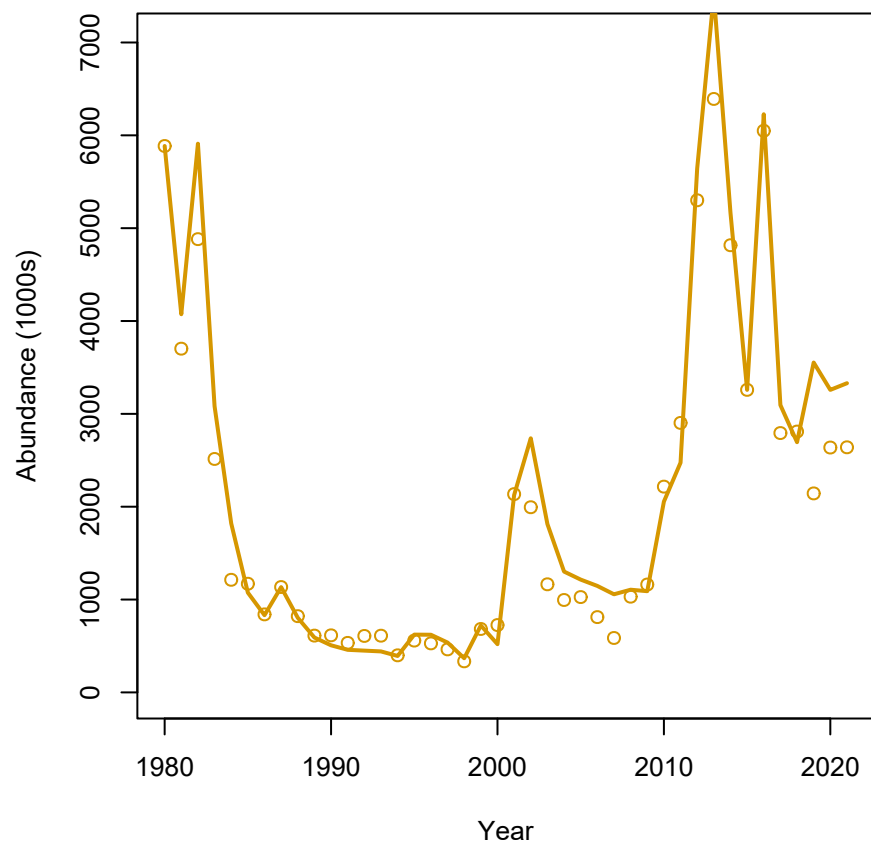
# Conditional Expected and Posterior Estimates of Age 7 Abundance



Conditional Expected and Posterior Estimates of Age 8 Abundance

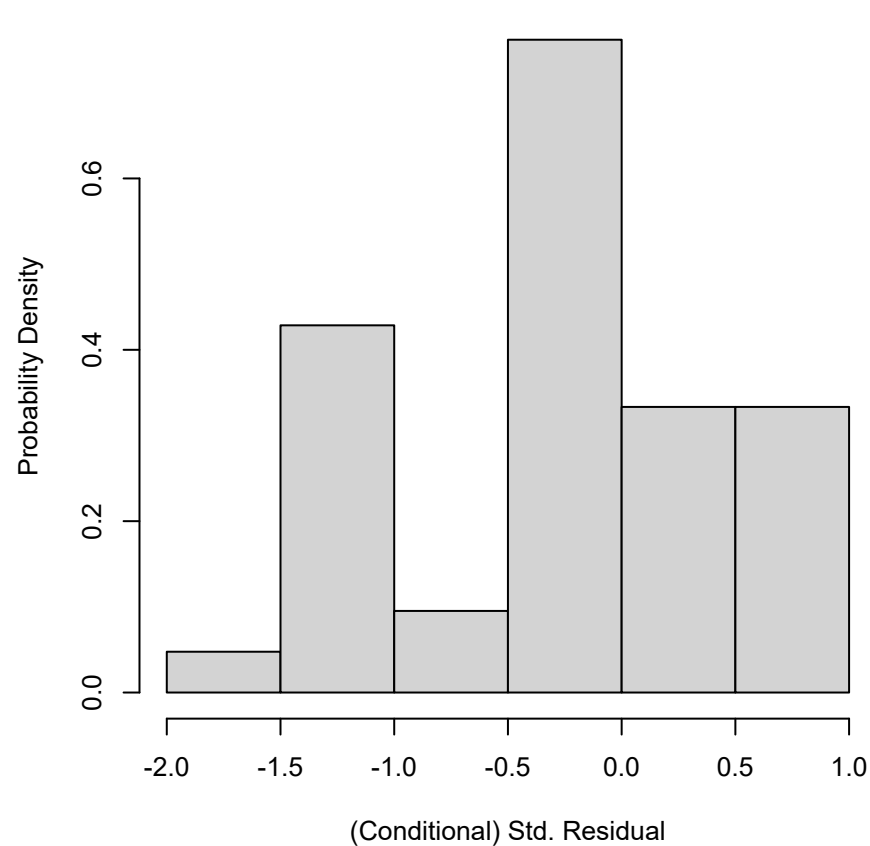
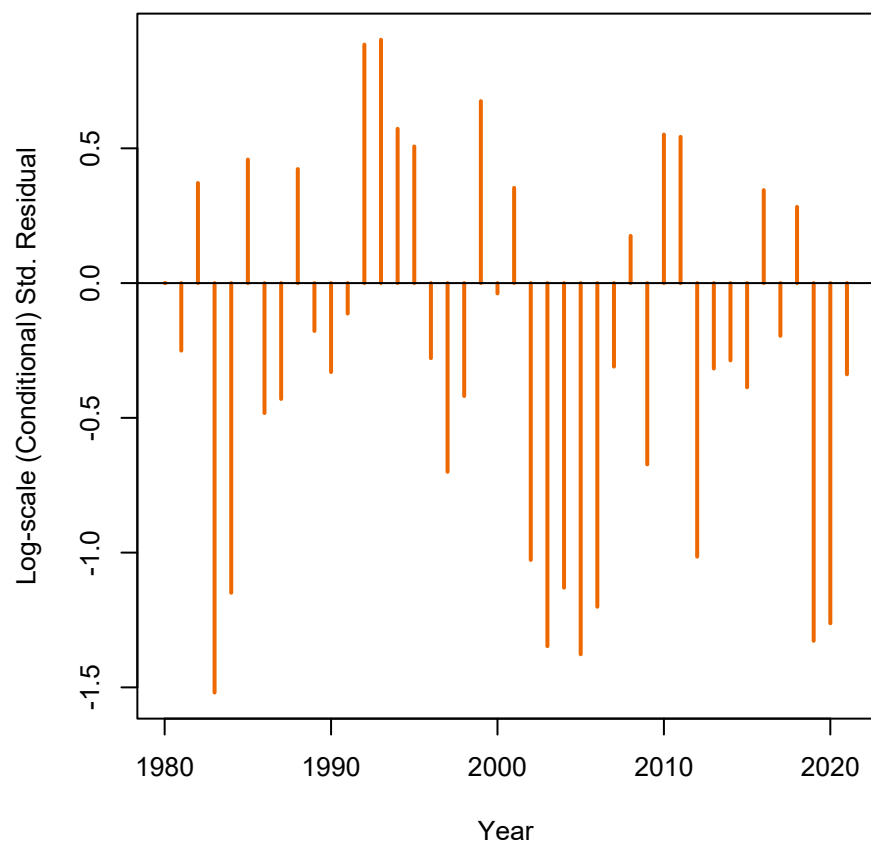
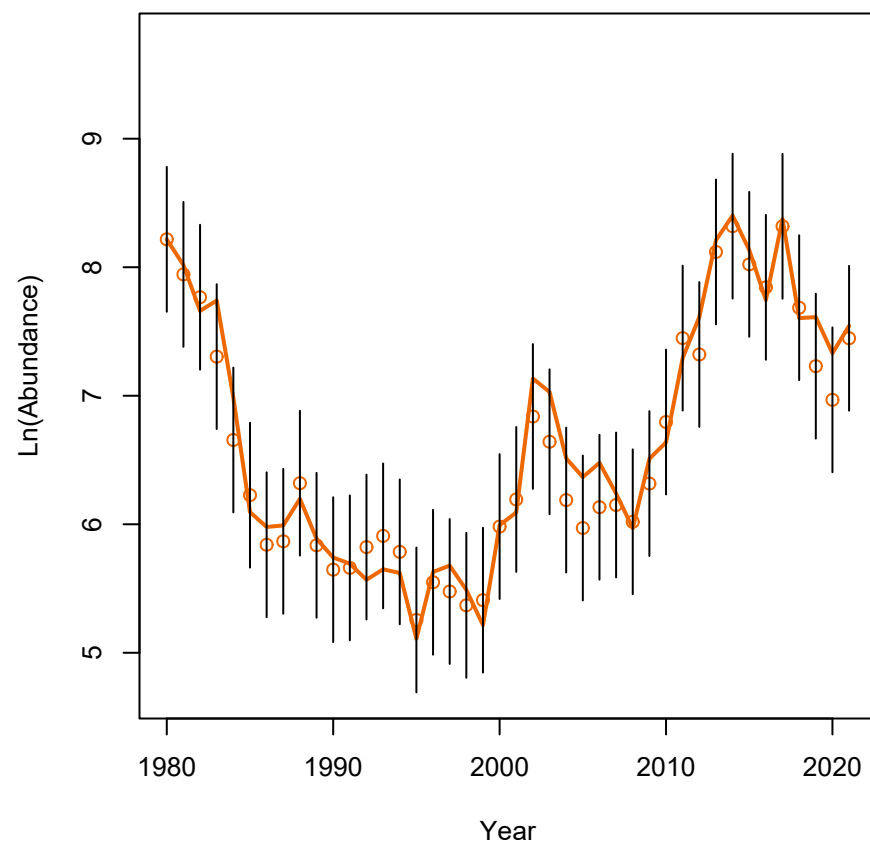
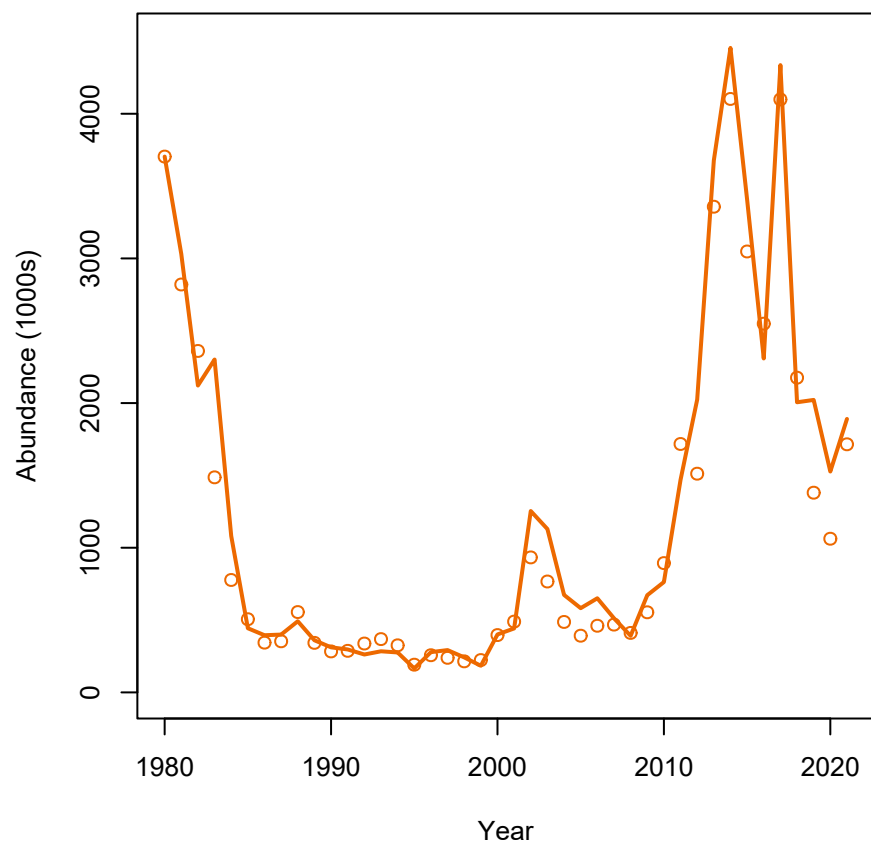


Conditional Expected and Posterior Estimates of Age 9 Abundance

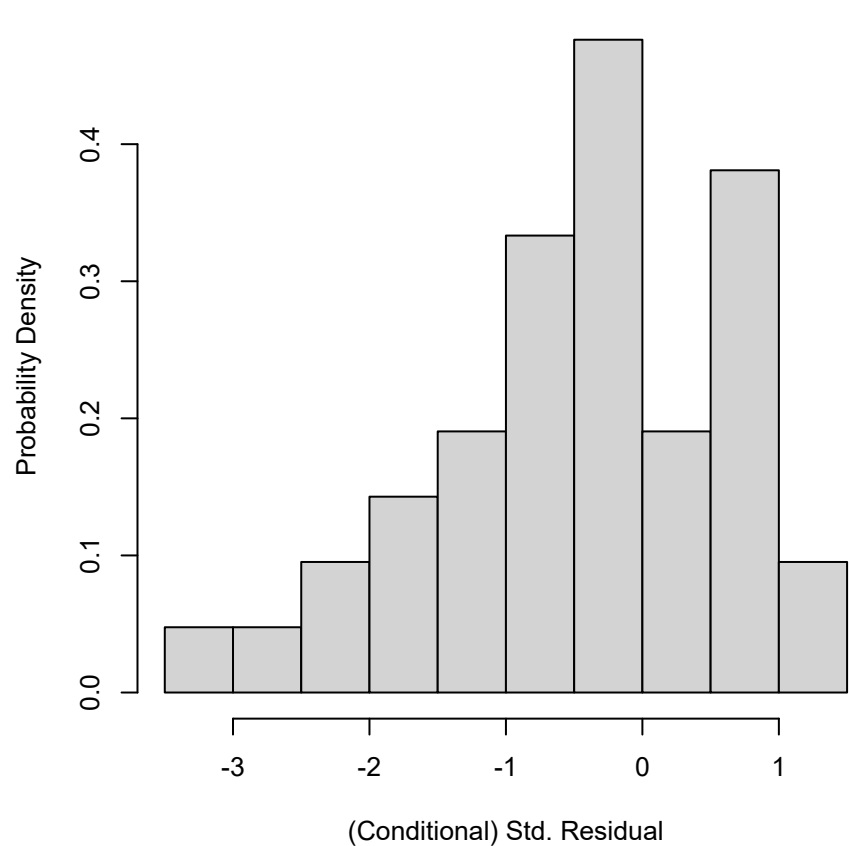
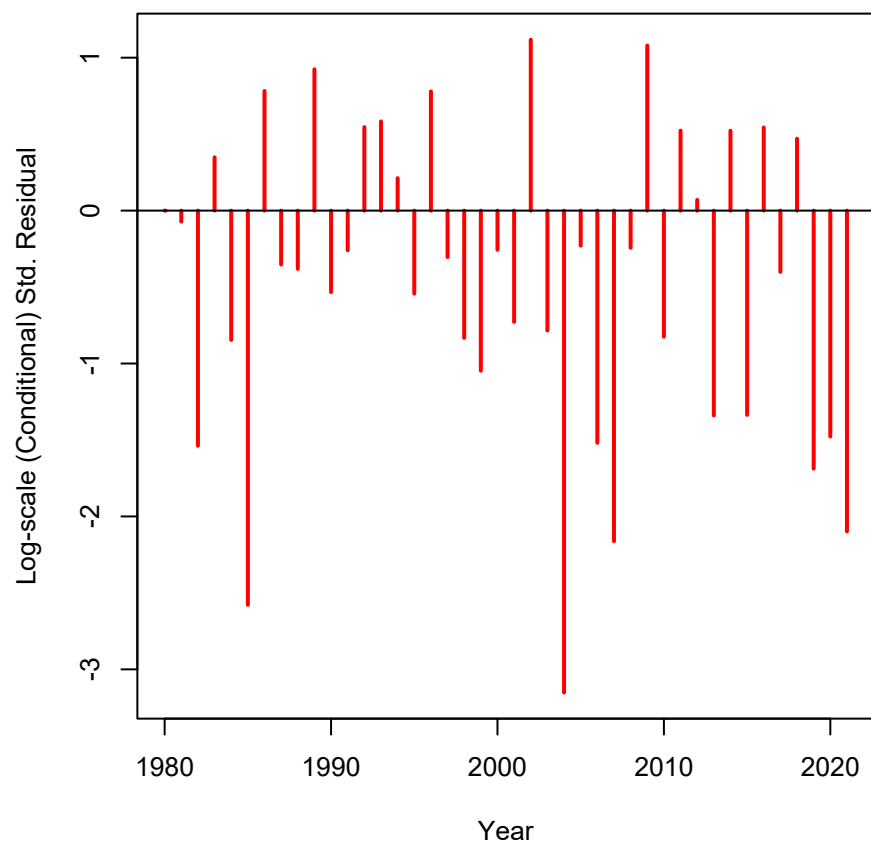
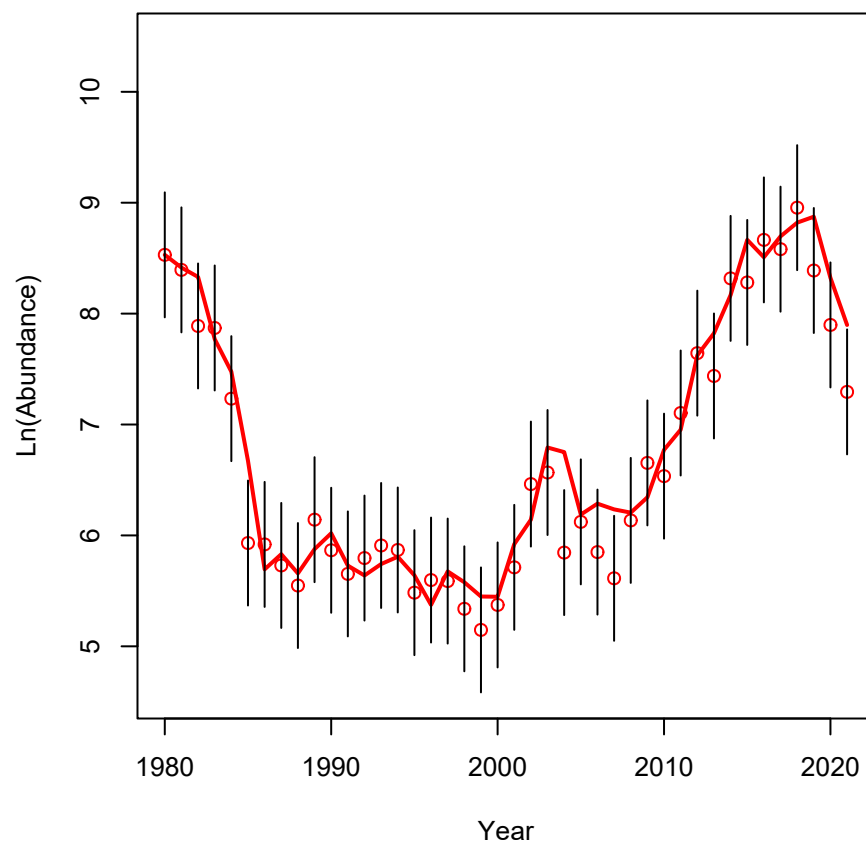
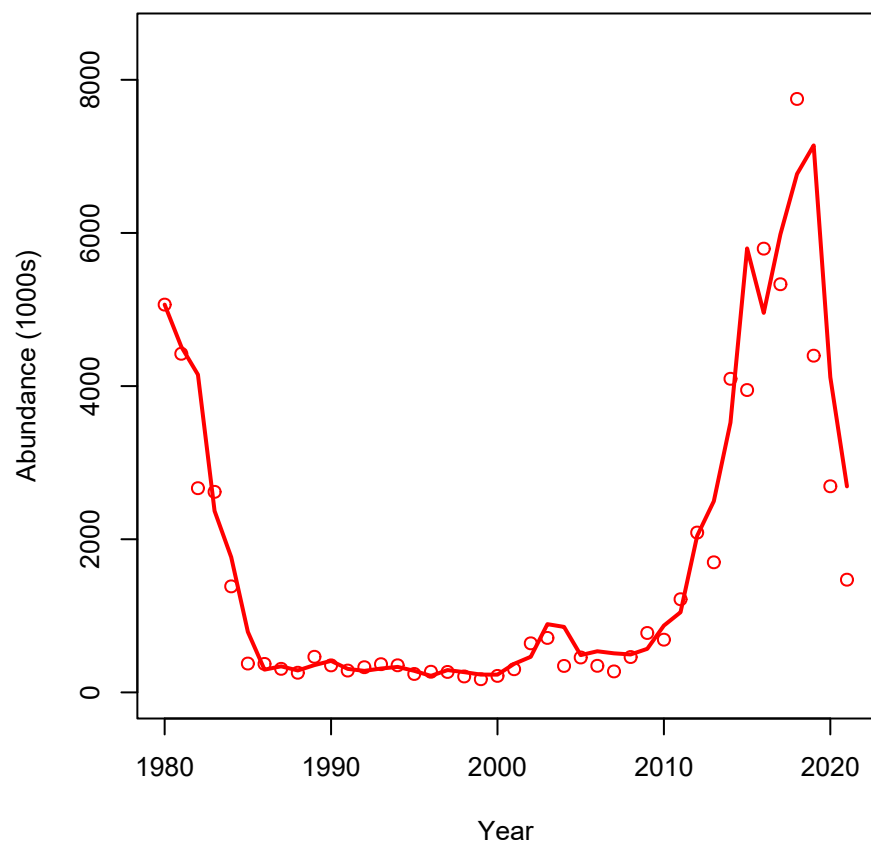




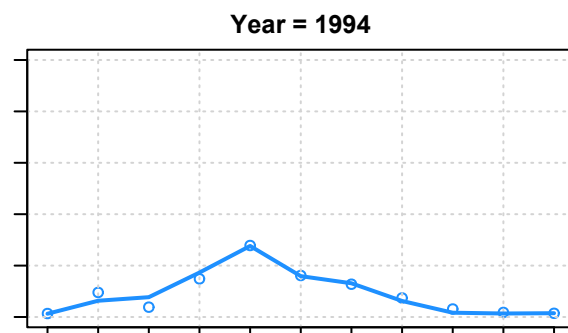
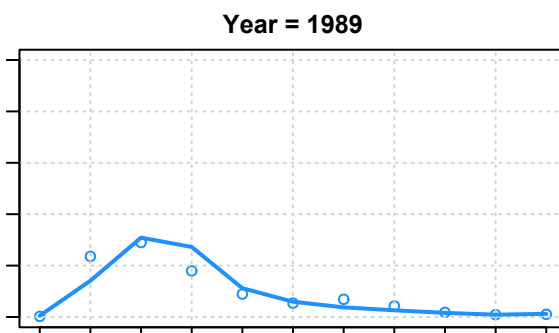
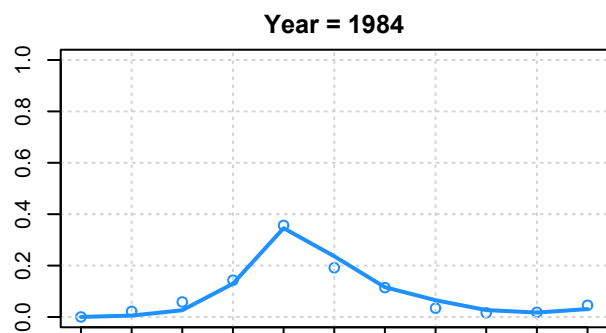
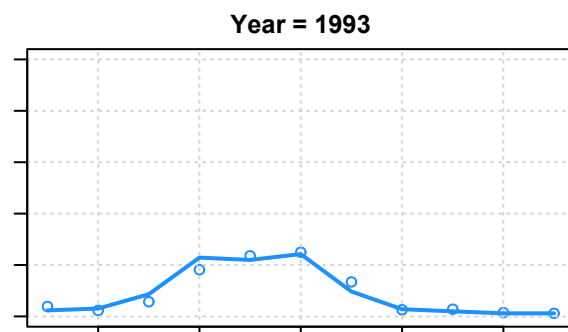
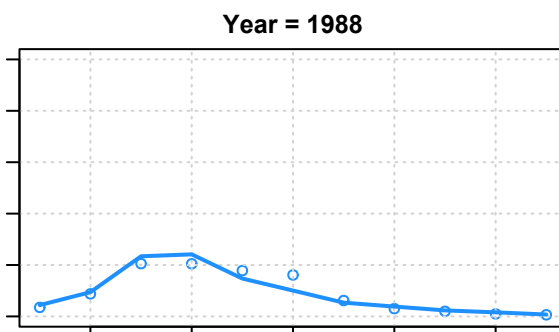
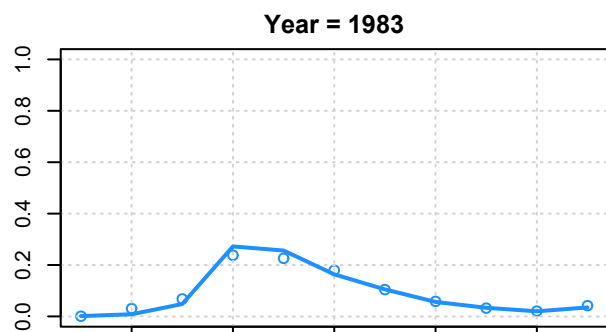
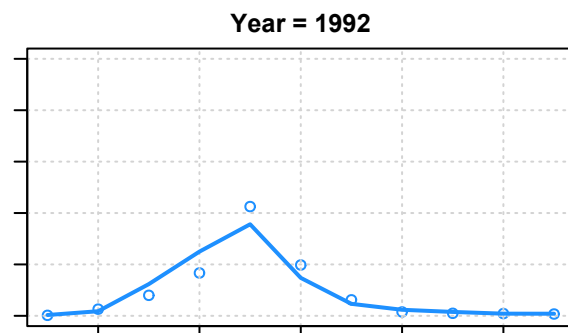
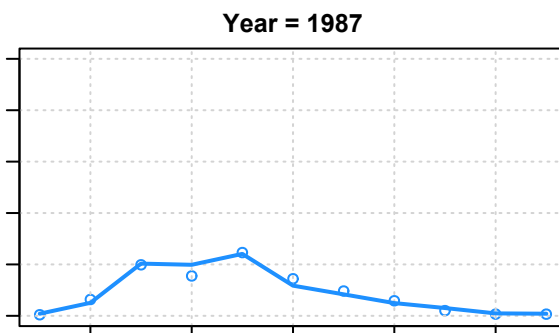
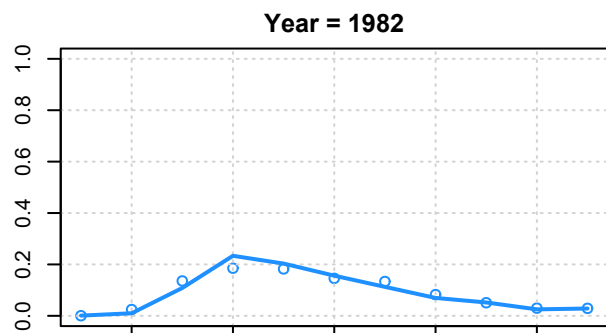
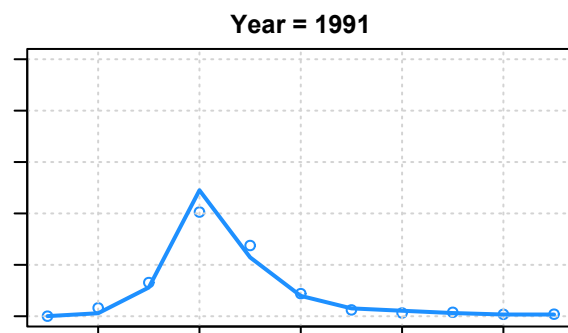
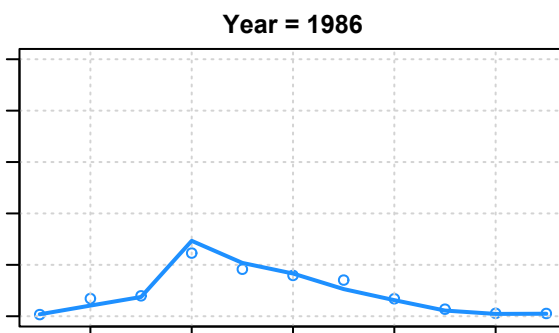
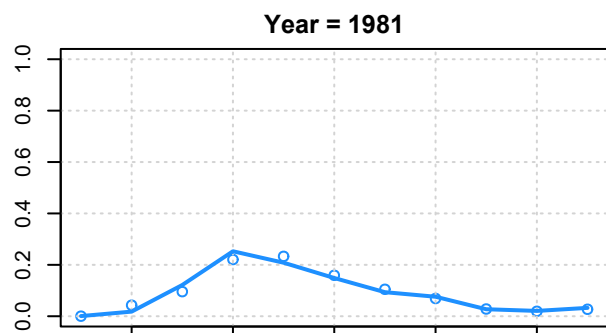
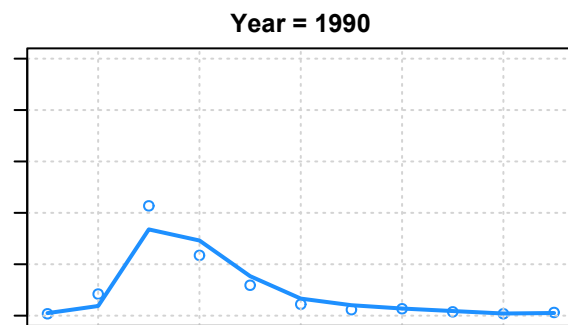
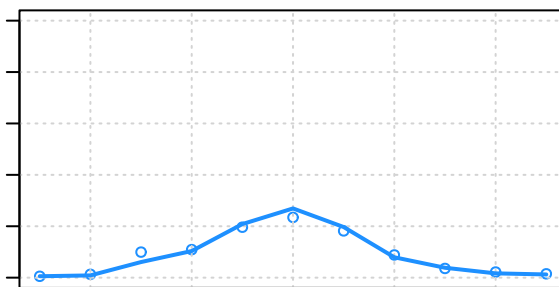
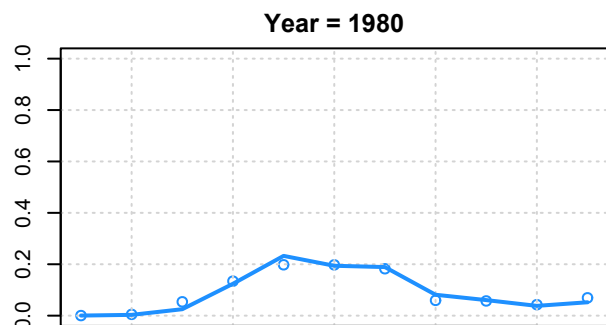
Conditional Expected and Posterior Estimates of Age 10 Abundance



# Conditional Expected and Posterior Estimates of Age 11 Abundance



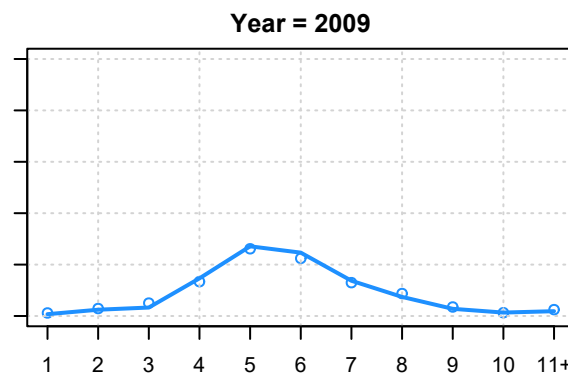
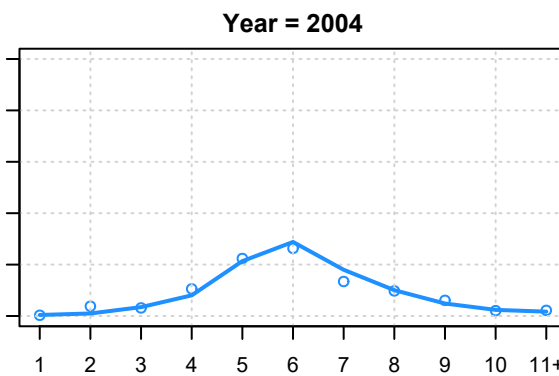
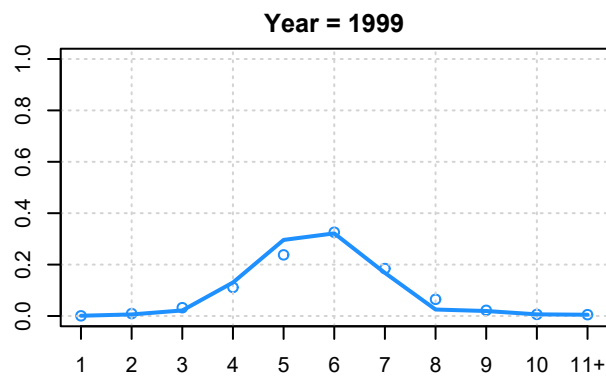
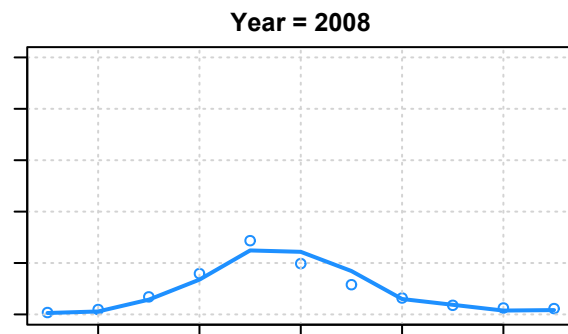
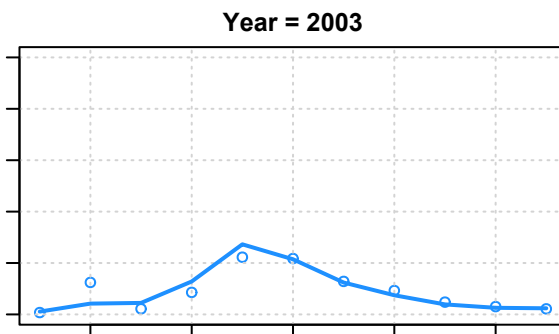
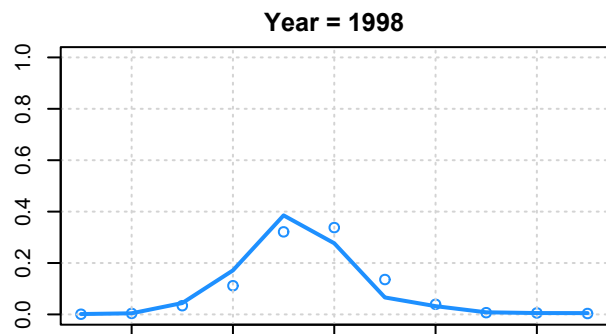
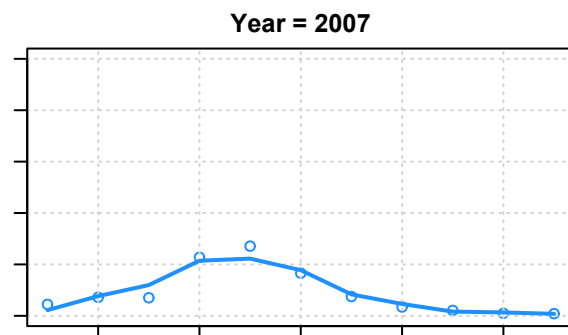
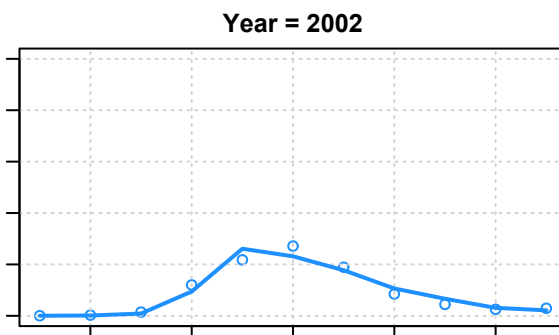
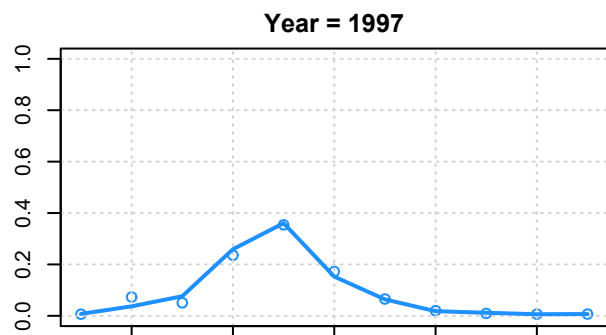
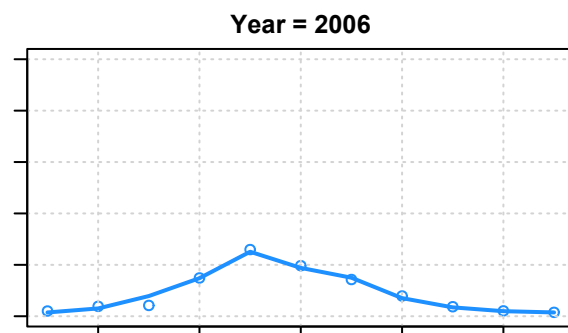
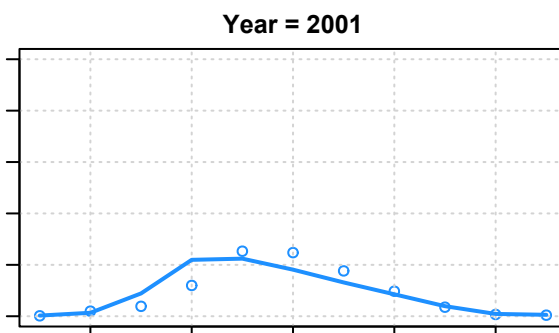
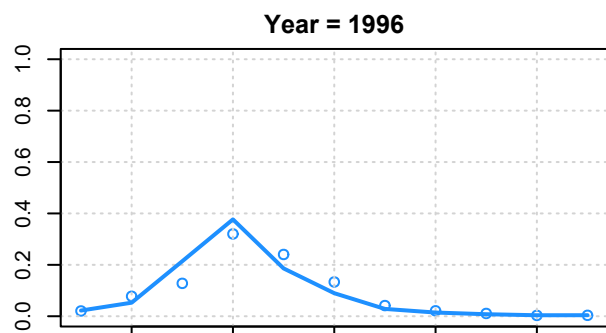
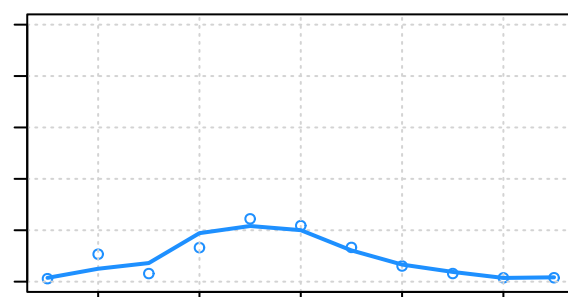
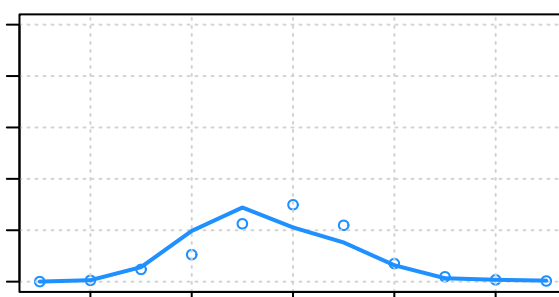
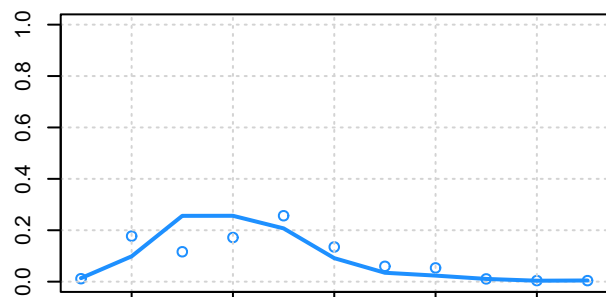
**Fleet 1**  
**Year = 1985**



Proportion

Age

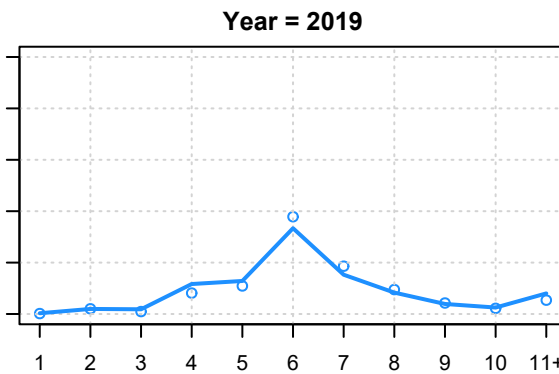
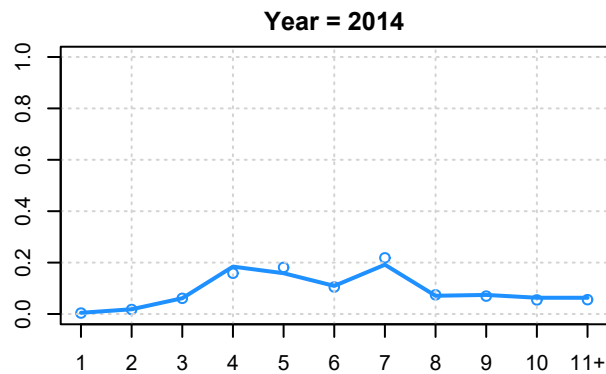
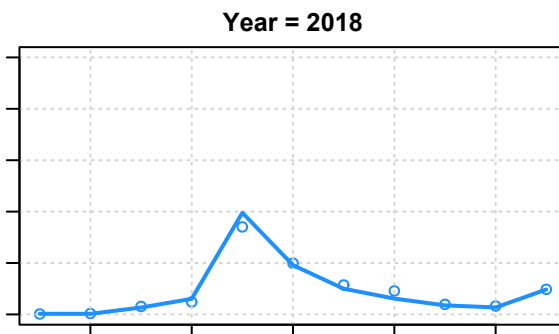
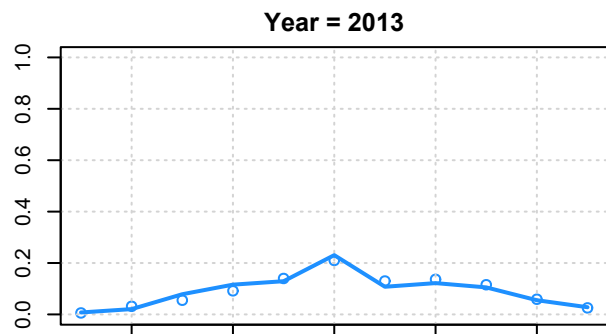
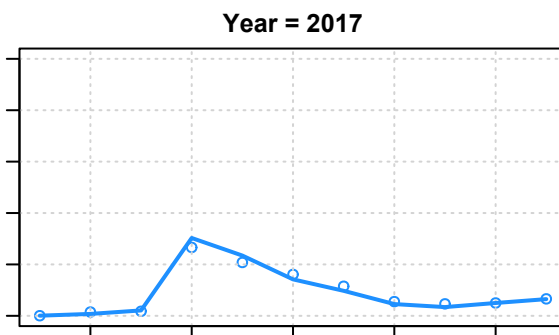
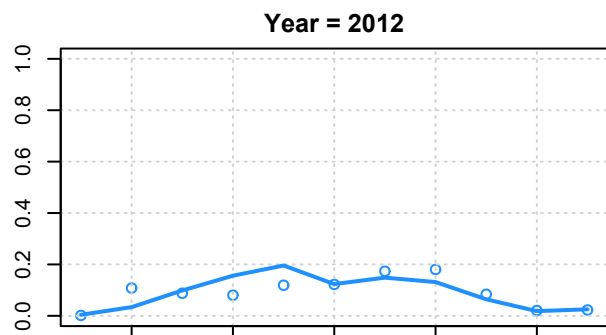
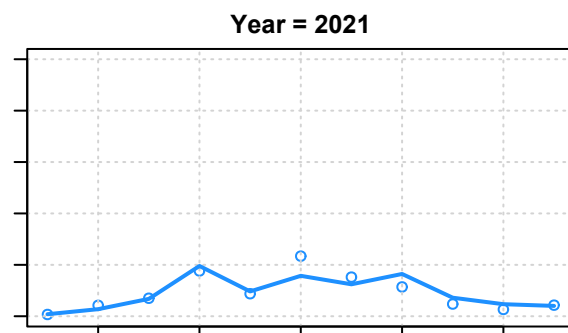
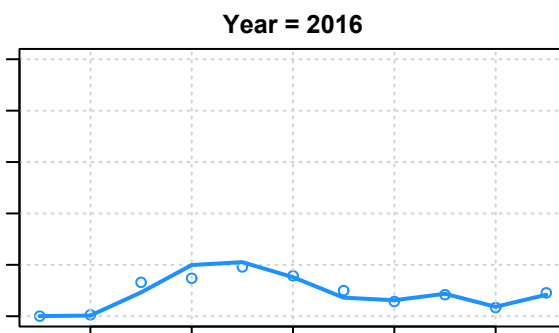
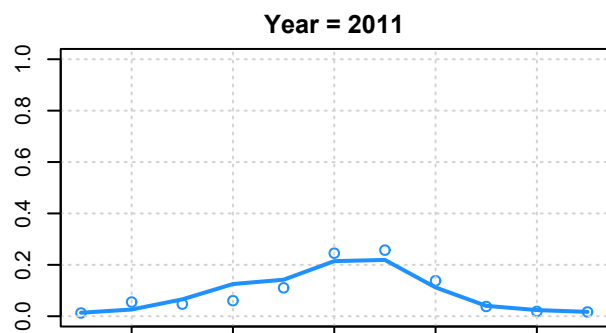
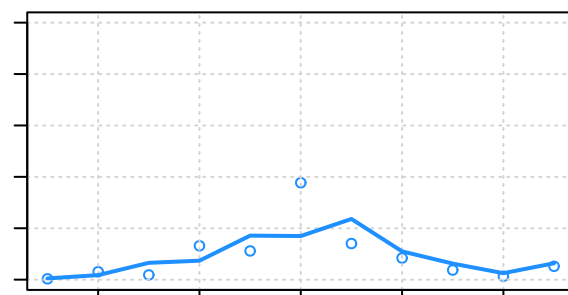
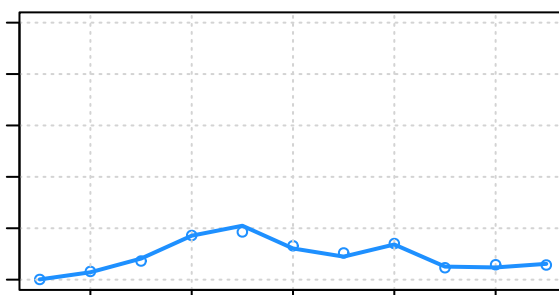
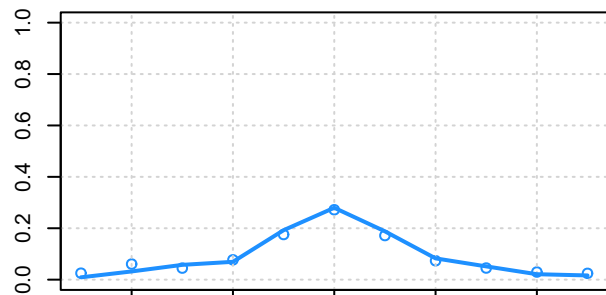
**Fleet 1**  
**Year = 2000**



Proportion

Age

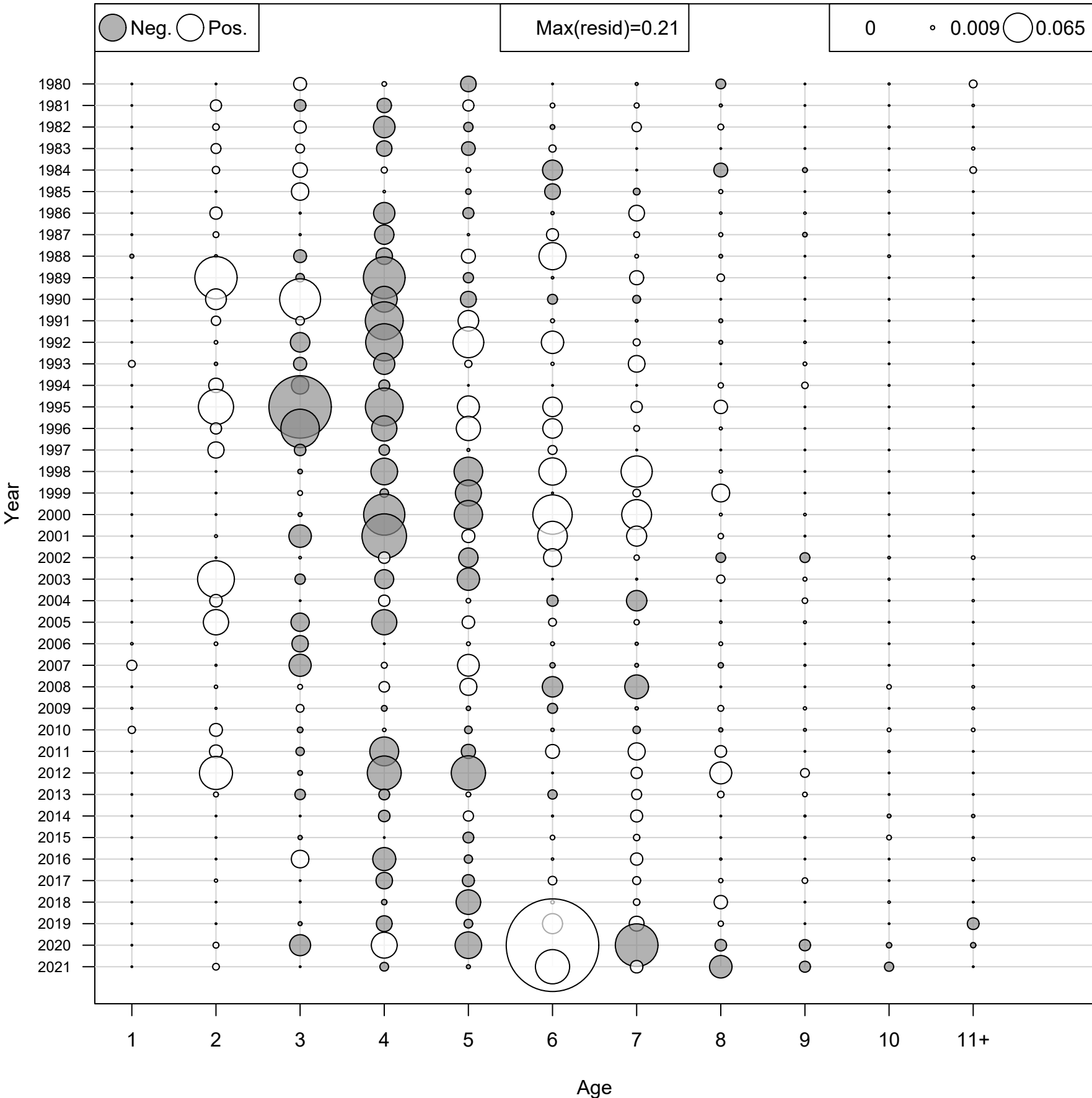
**Fleet 1**  
**Year = 2015**



Proportion

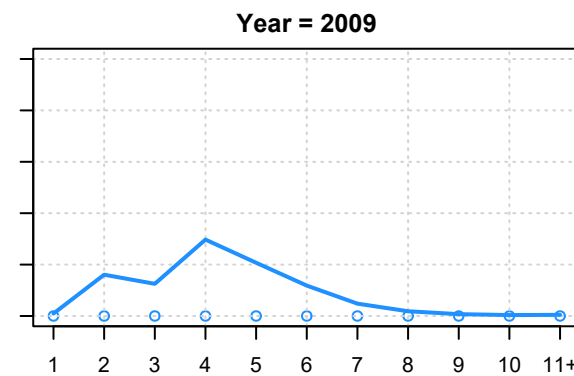
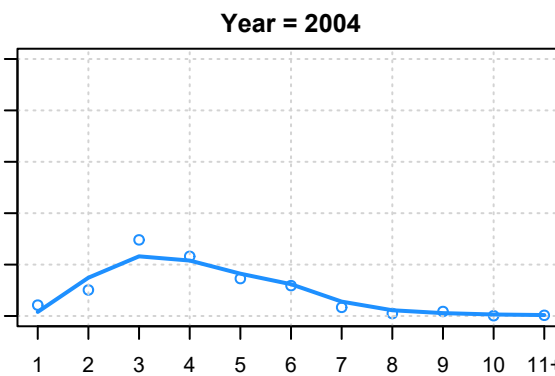
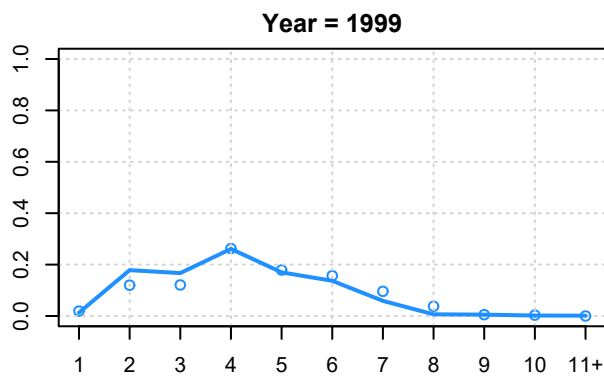
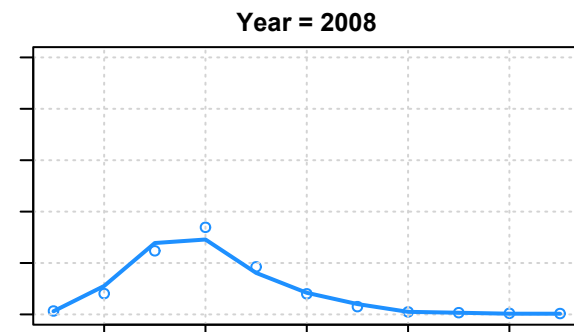
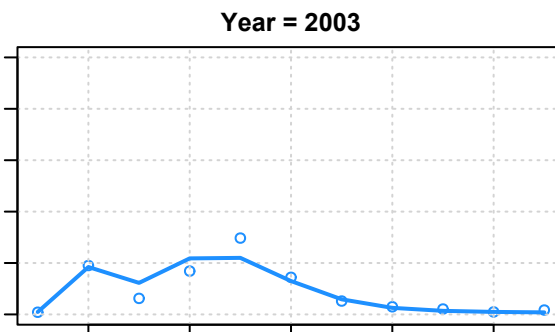
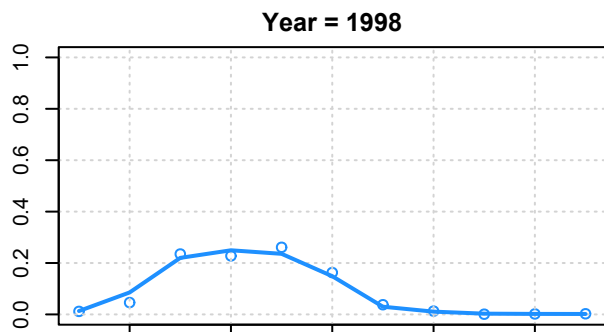
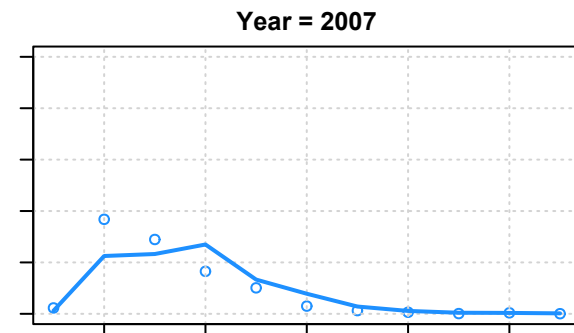
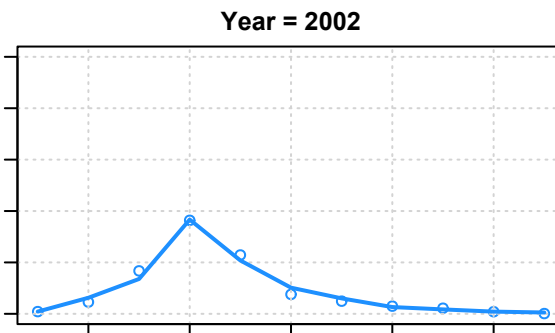
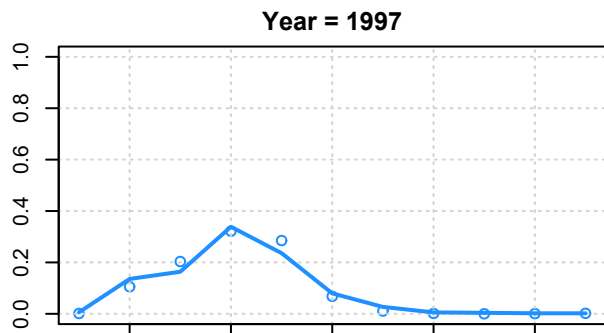
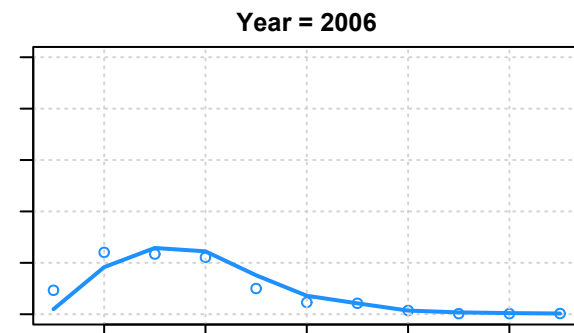
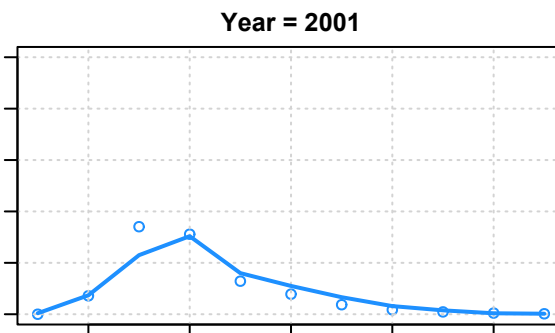
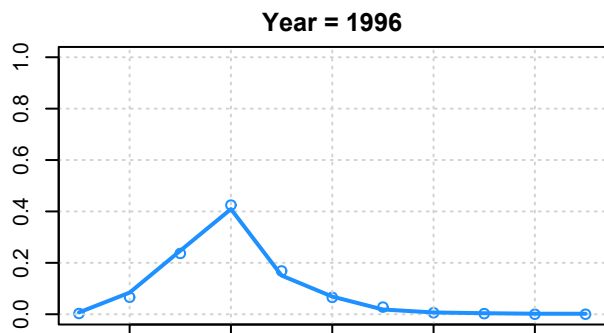
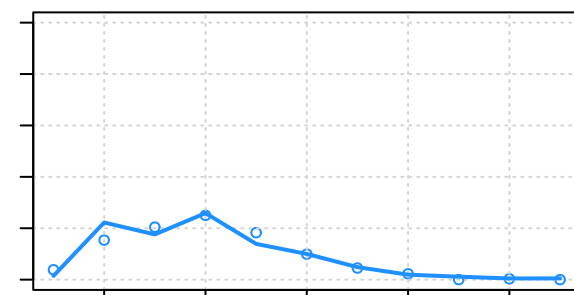
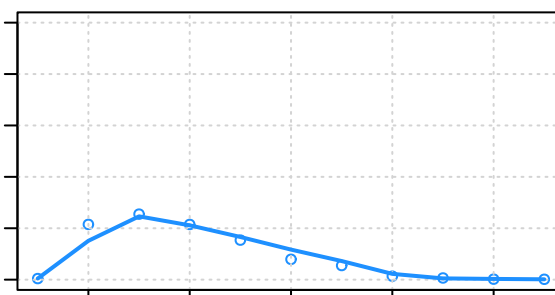
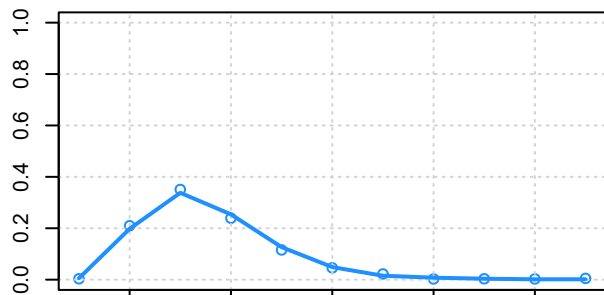
Age

### Age Comp Residuals (Observed-Predicted) for Fleet 1





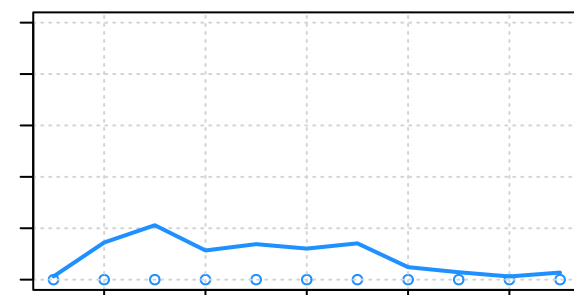
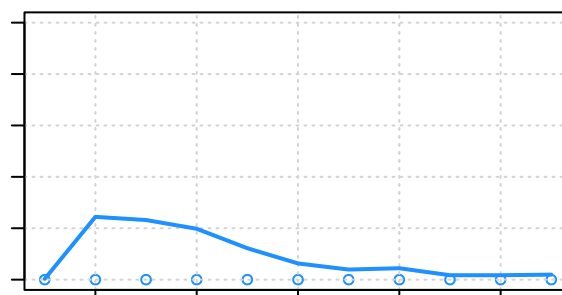
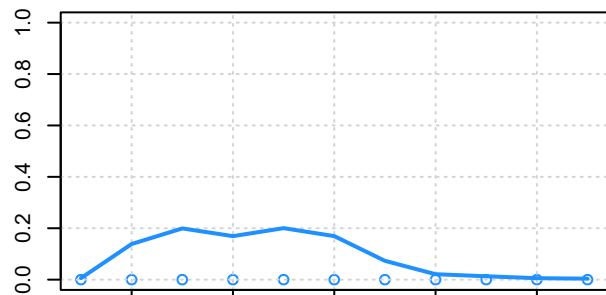
Index 1  
Year = 2000



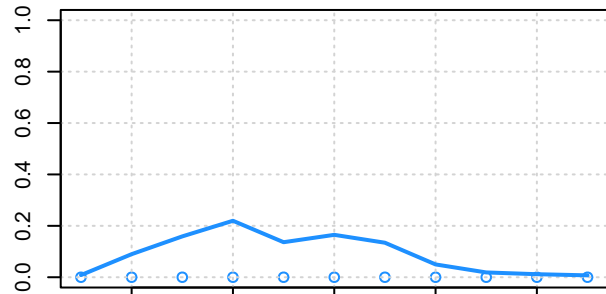
Age



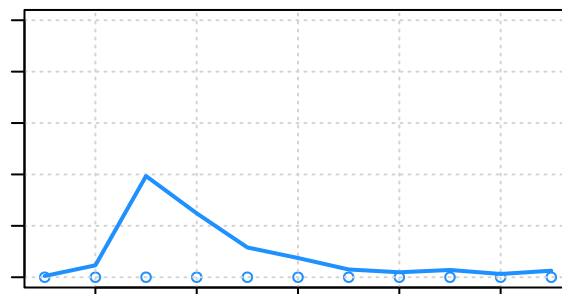
Index 1  
Year = 2015



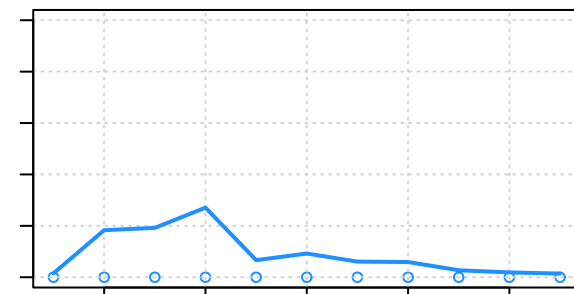
Year = 2011



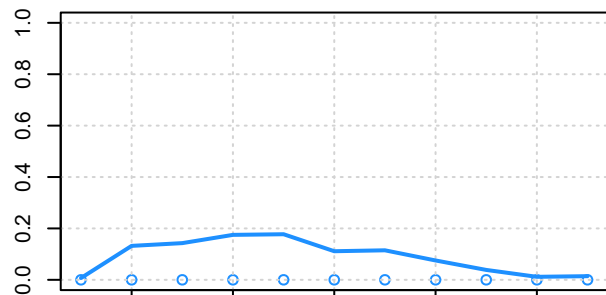
Year = 2016



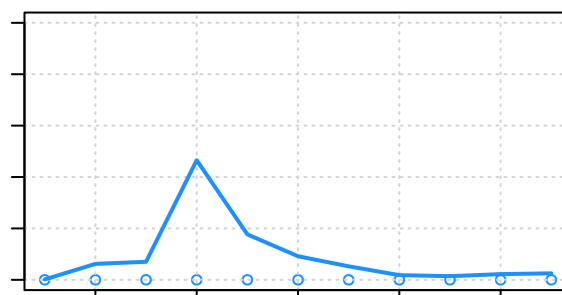
Year = 2021



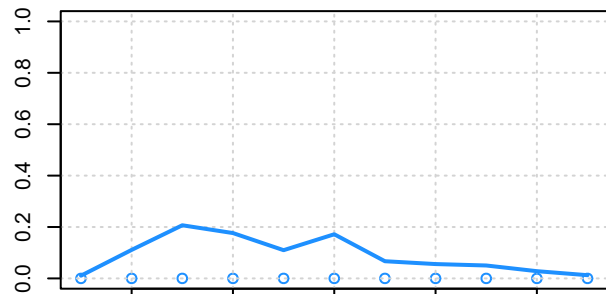
Year = 2012



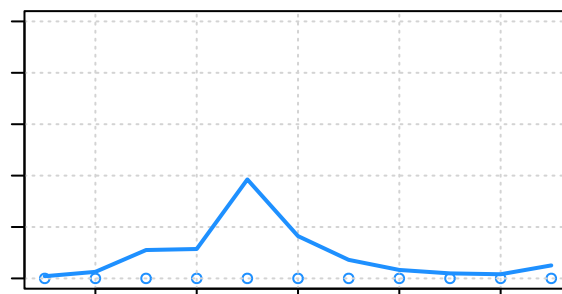
Year = 2017



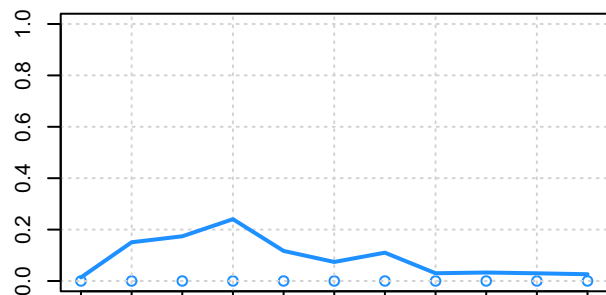
Year = 2013



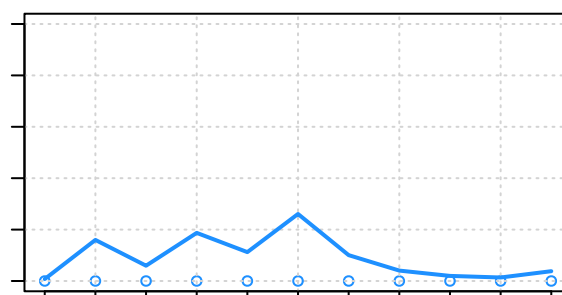
Year = 2018



Year = 2014



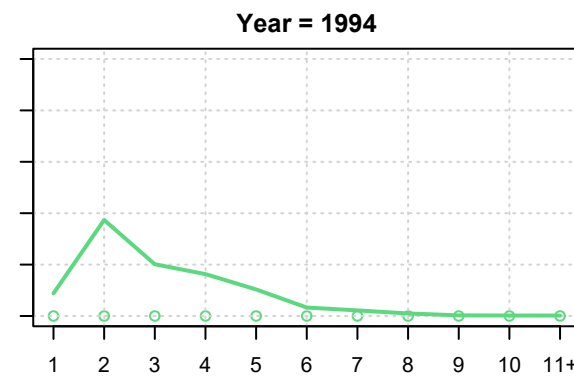
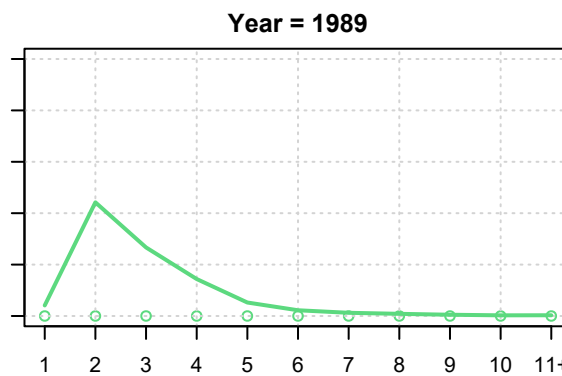
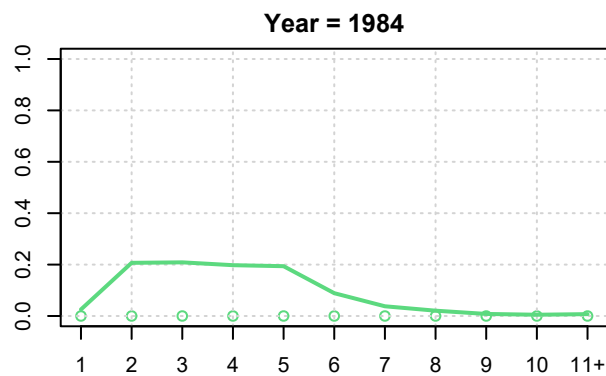
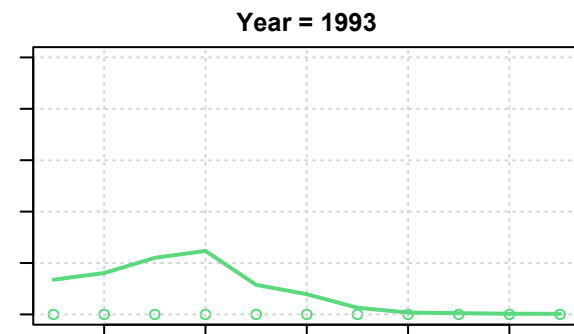
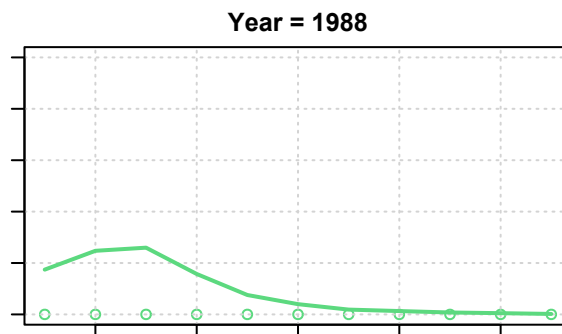
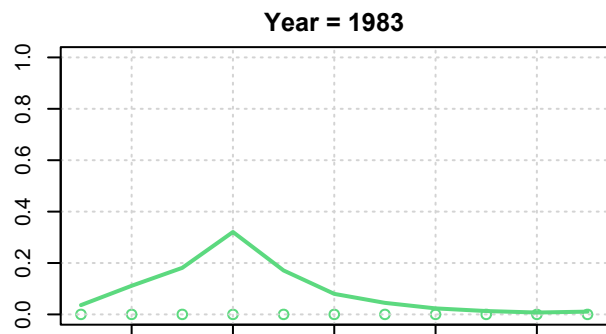
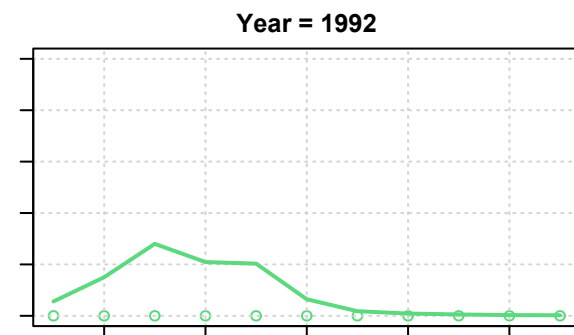
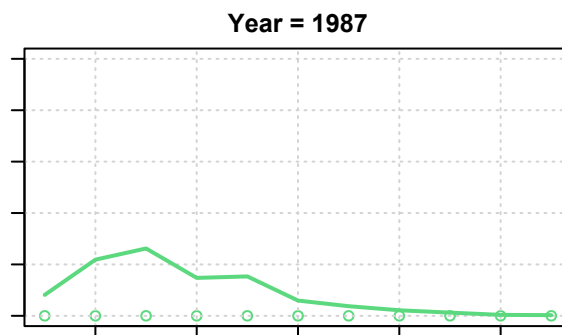
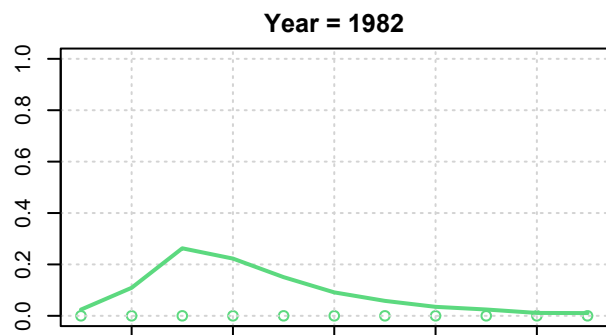
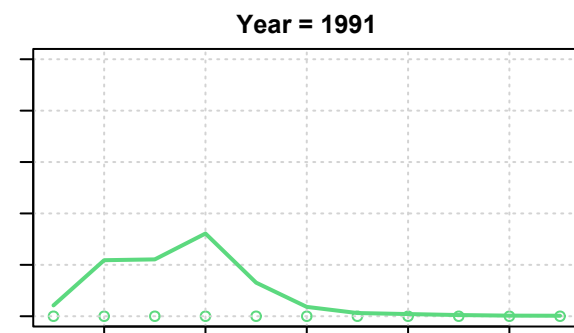
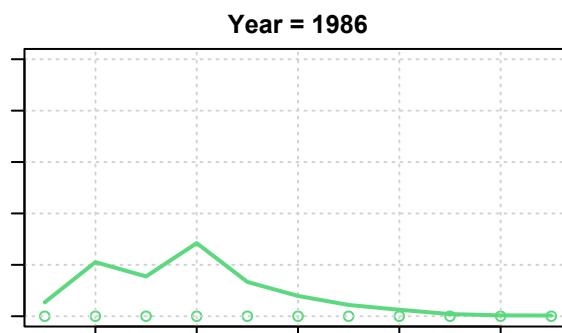
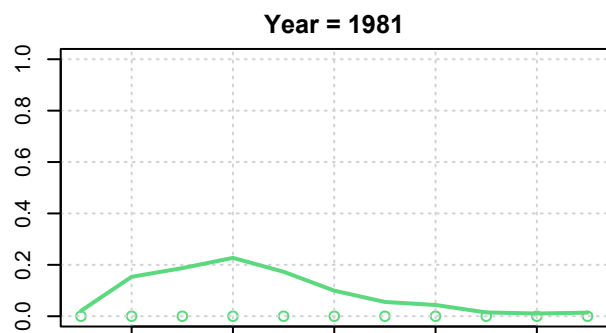
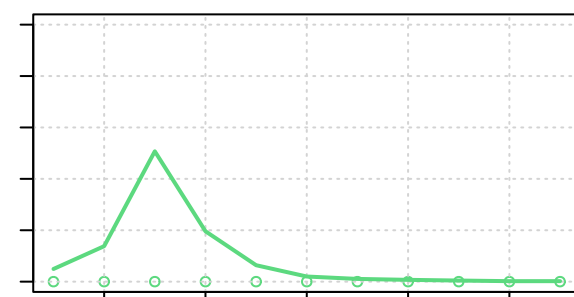
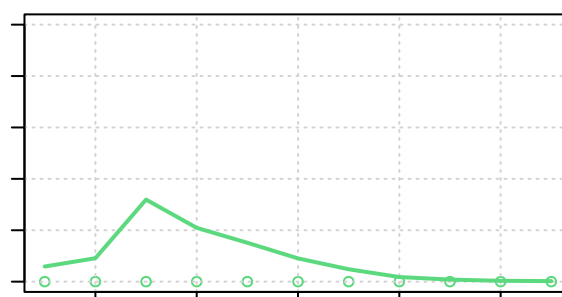
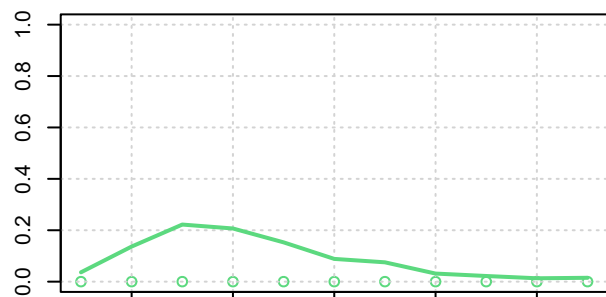
Year = 2019



Proportion

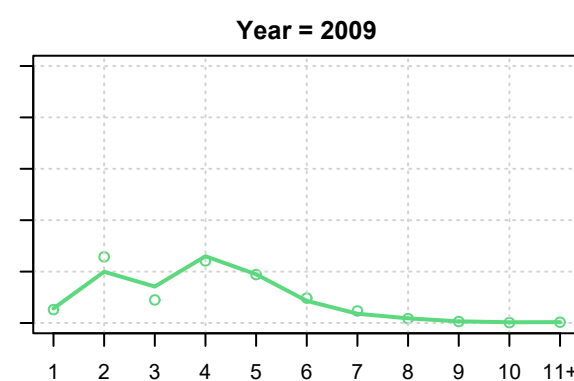
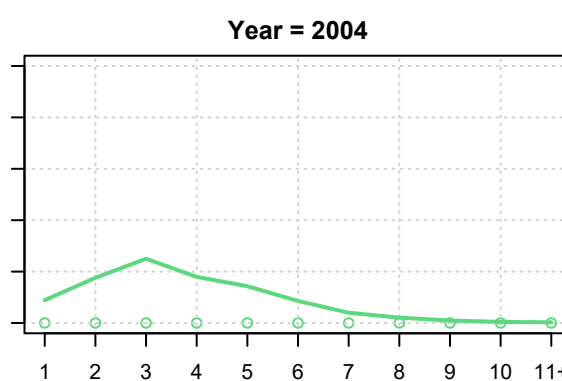
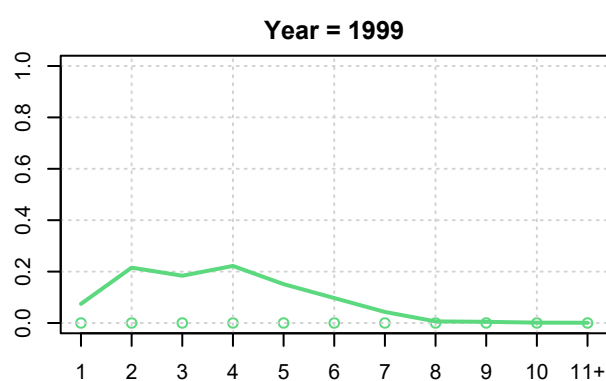
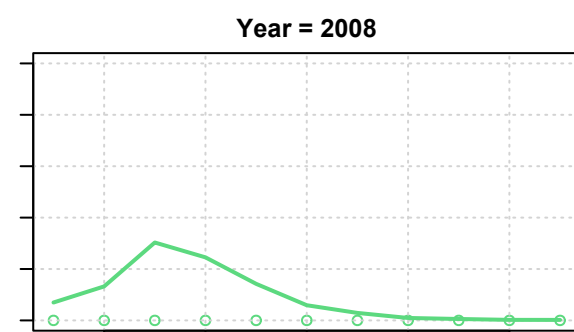
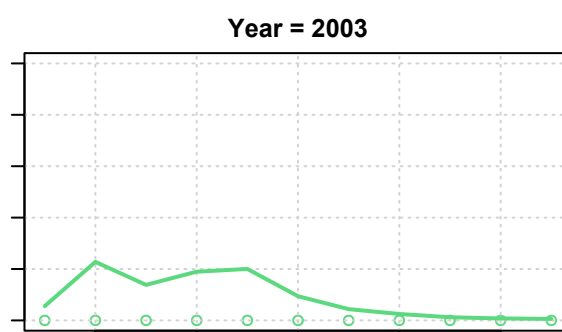
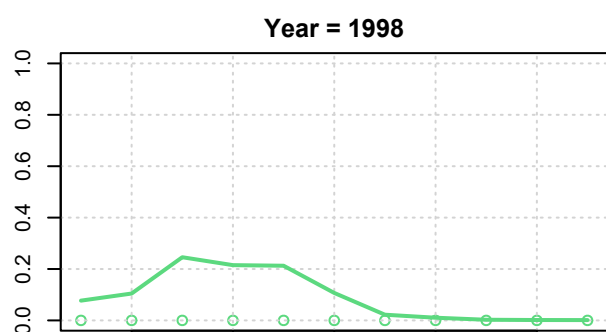
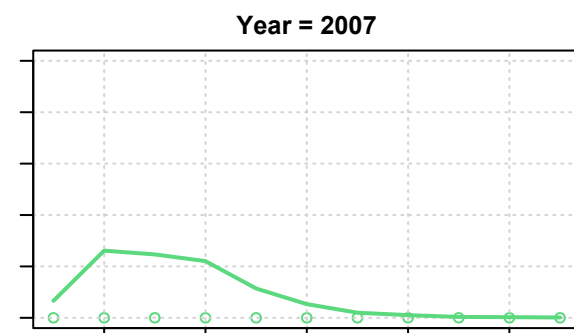
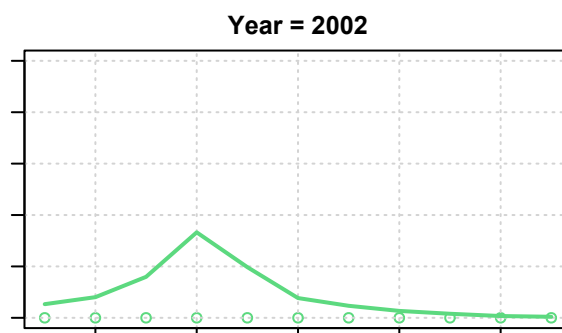
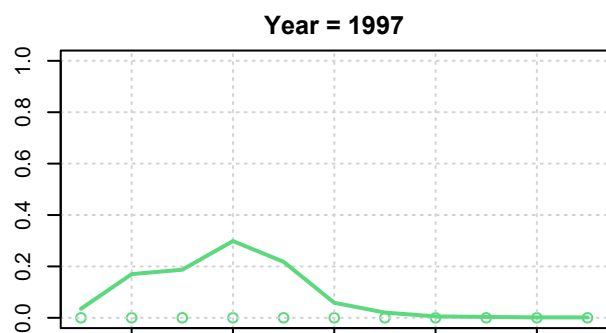
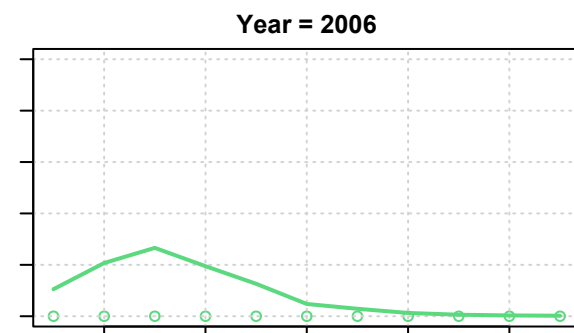
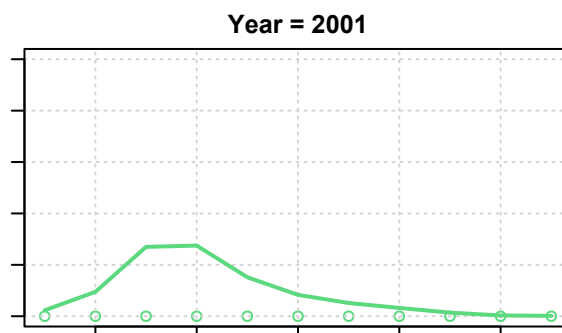
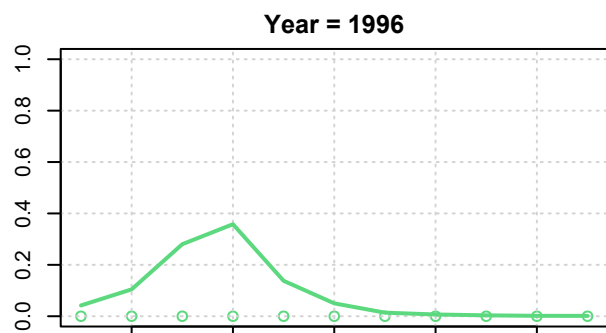
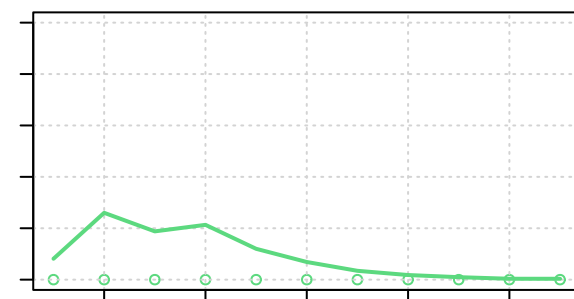
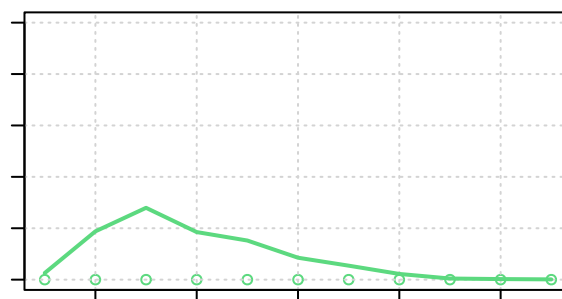
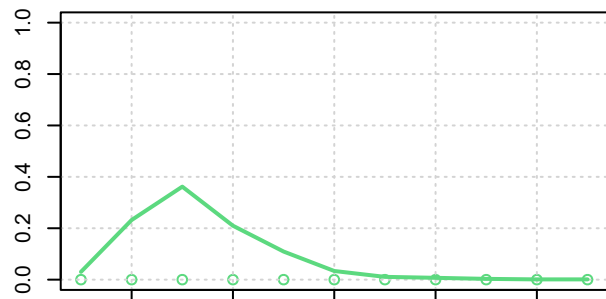
Age

Index 2  
Year = 1985

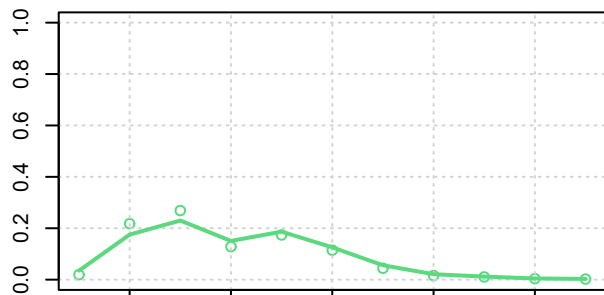


Age

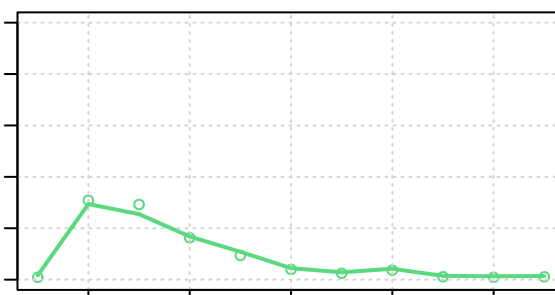
Index 2  
Year = 2000



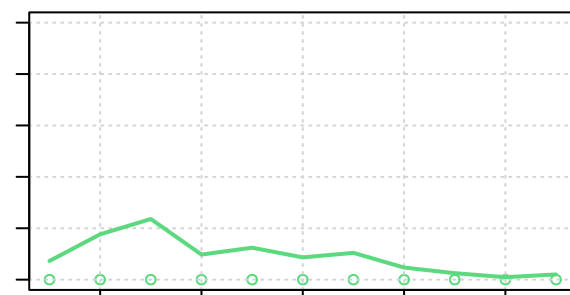
**Year = 2010**



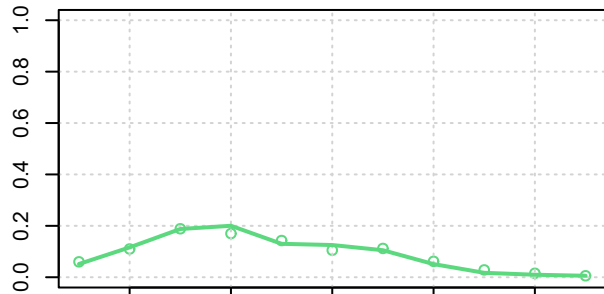
**Index 2**  
**Year = 2015**



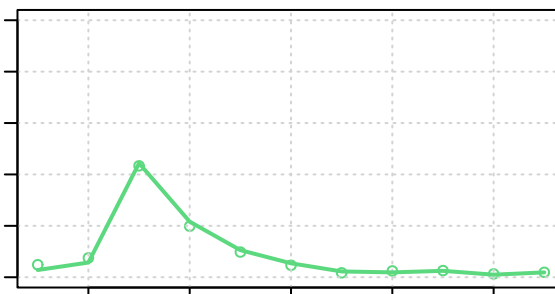
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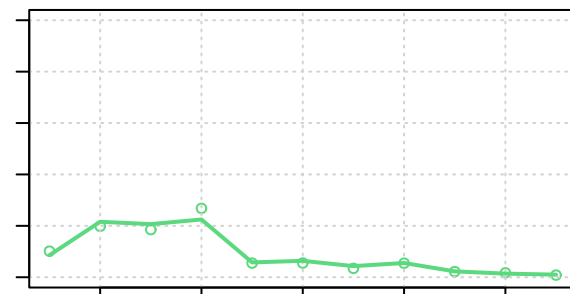
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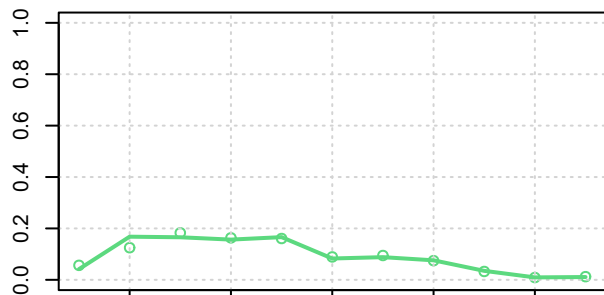
**Year = 2016**



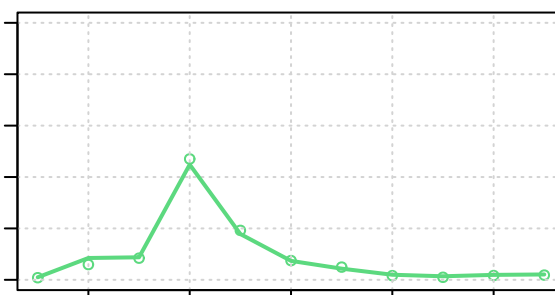
**Year = 2021**



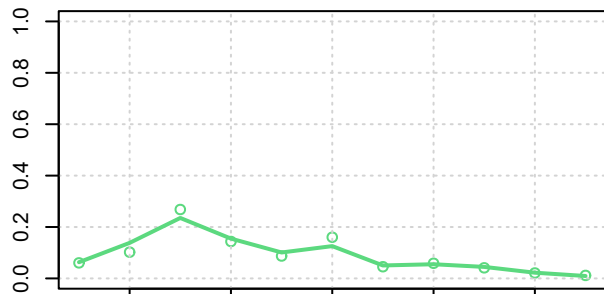
**Year = 2012**



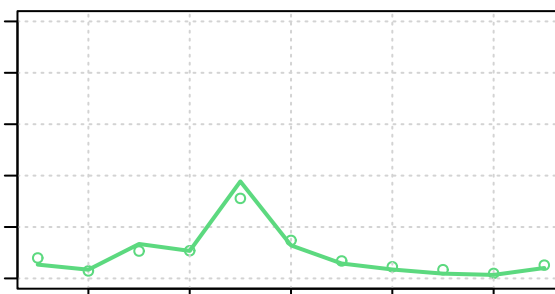
**Year = 2017**



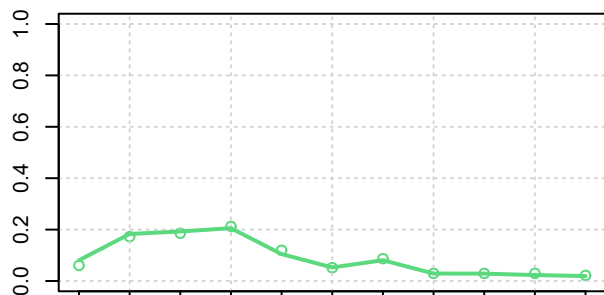
**Year = 2013**



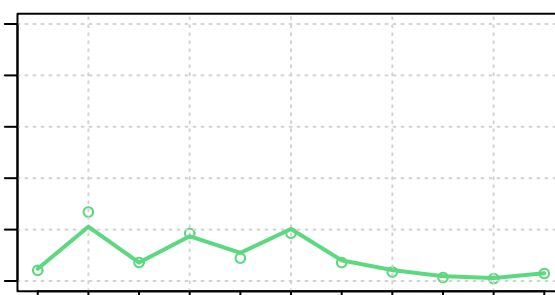
**Year = 2018**



**Year = 2014**

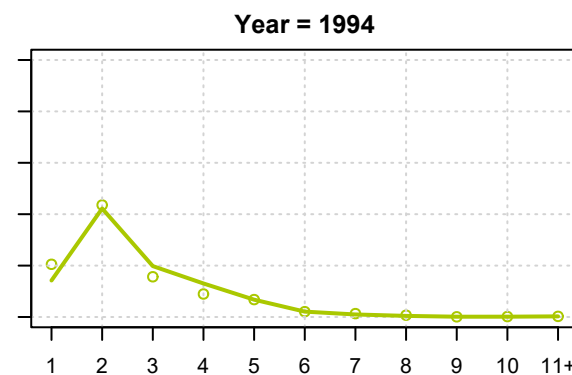
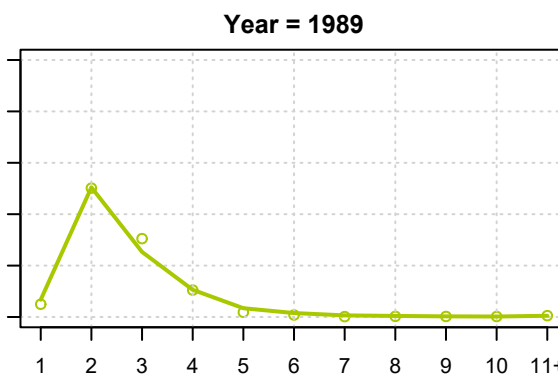
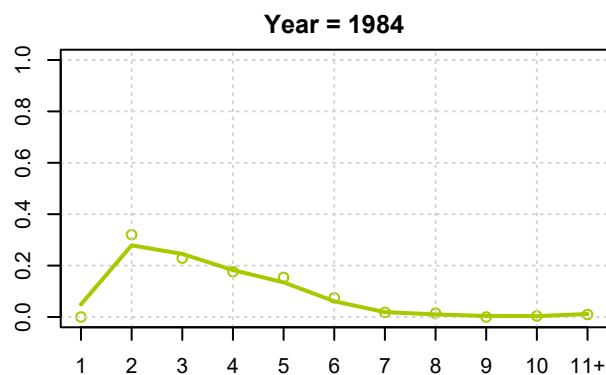
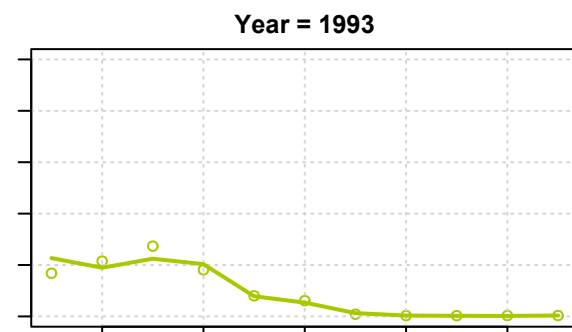
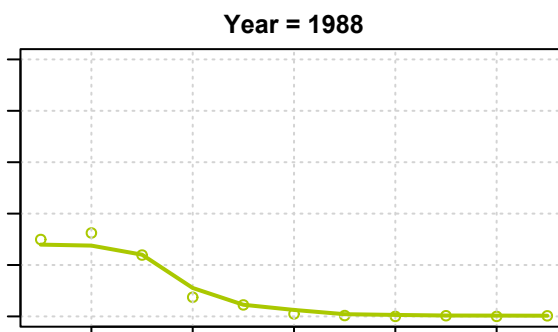
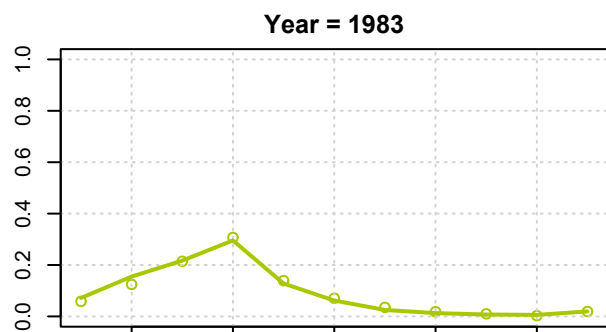
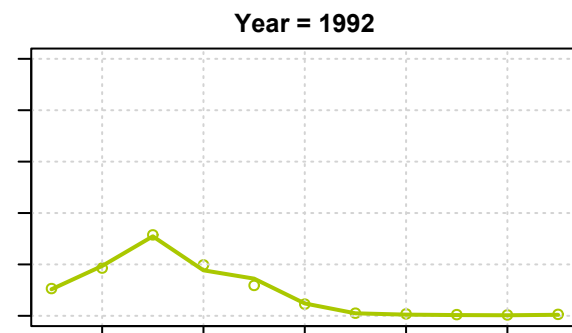
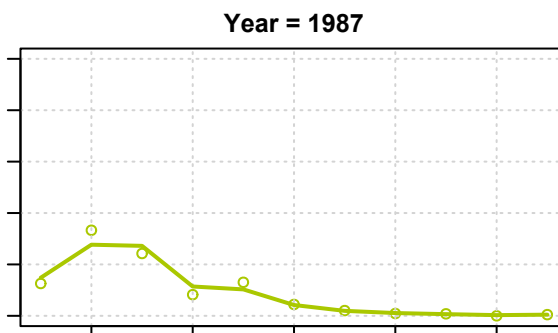
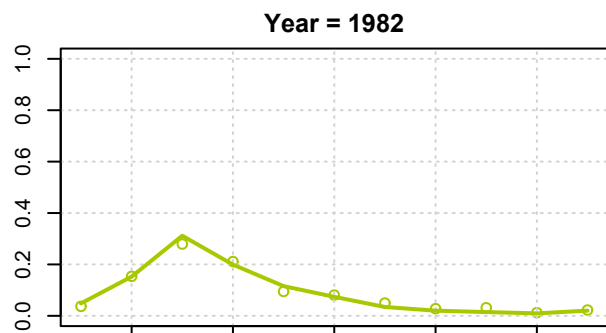
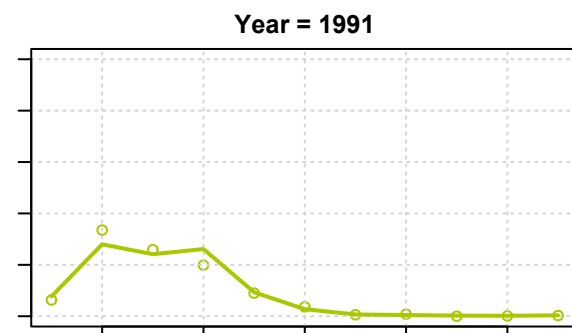
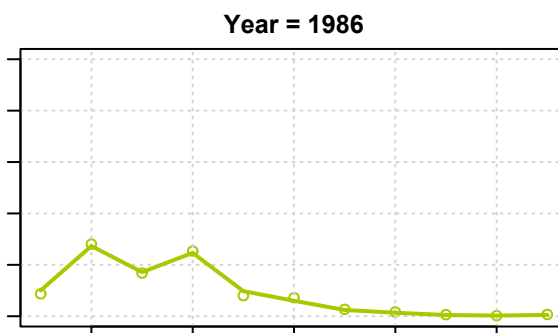
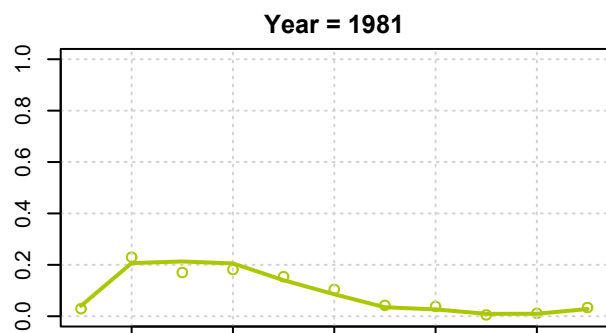
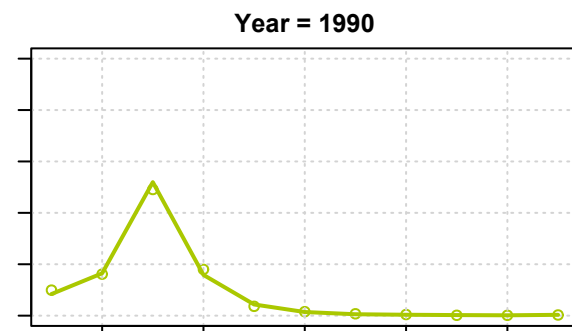
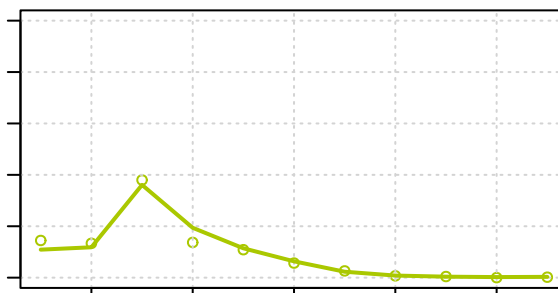
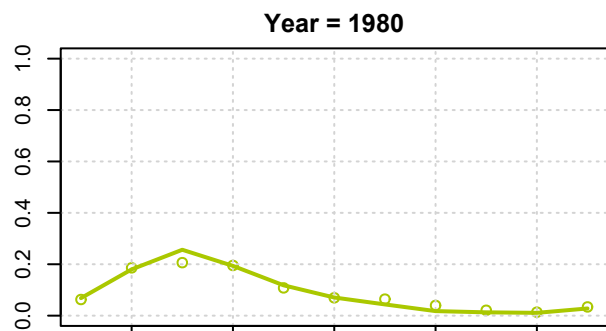


**Year = 2019**



Age

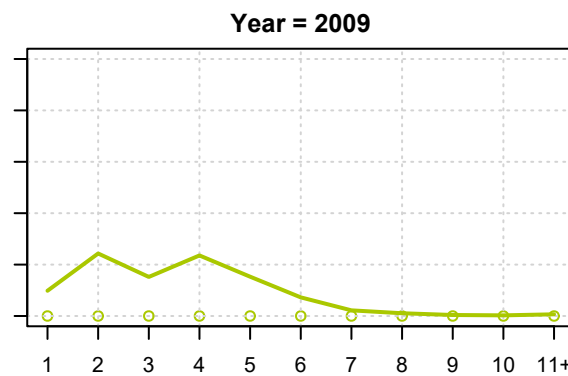
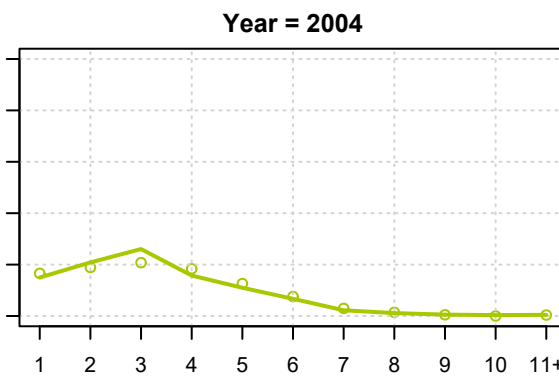
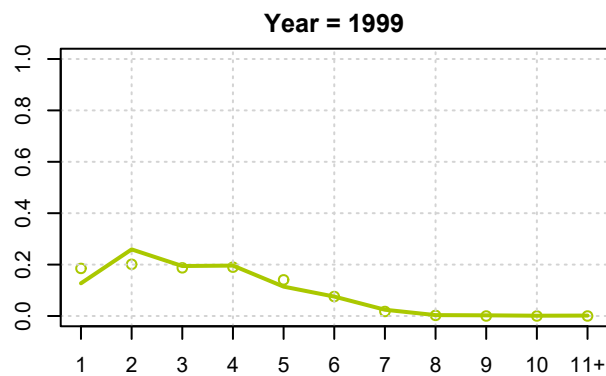
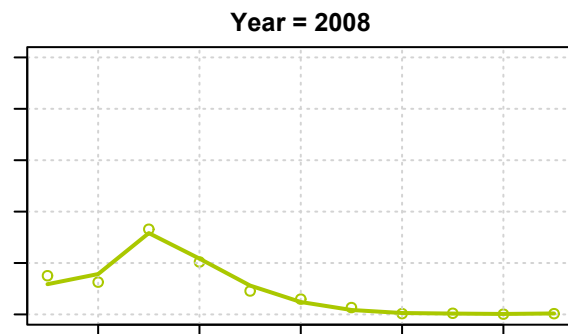
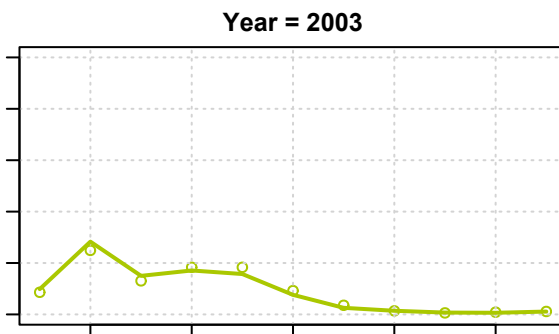
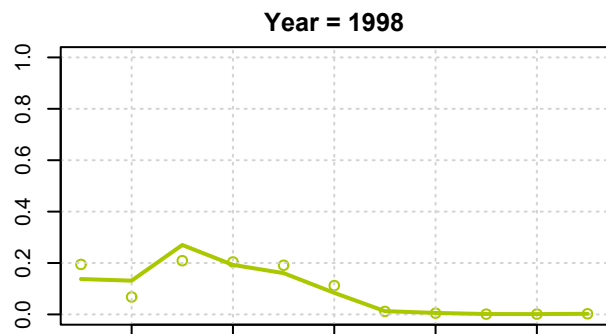
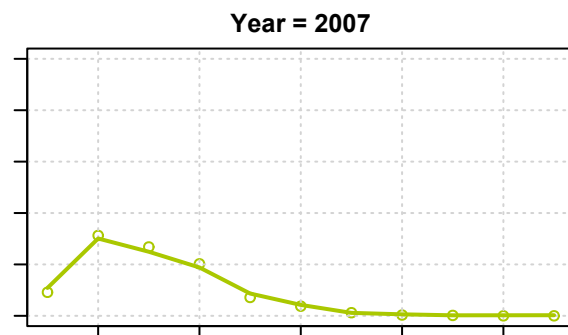
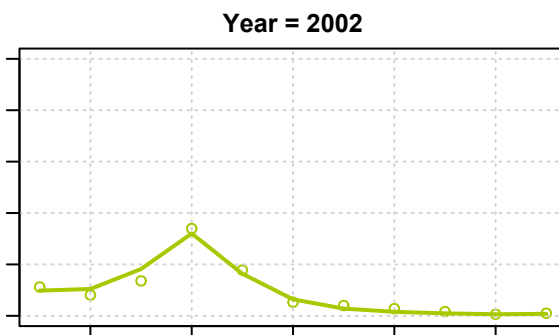
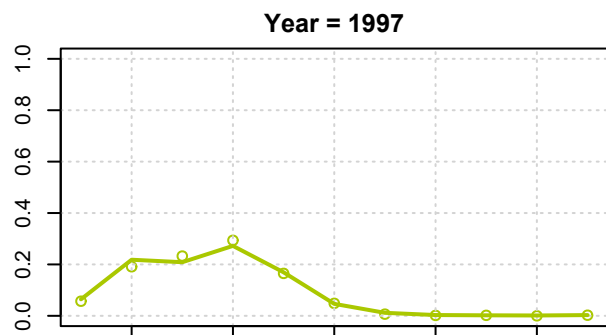
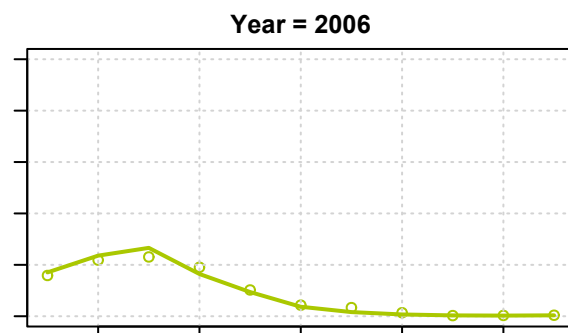
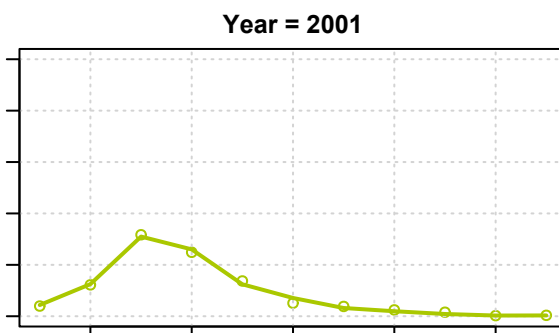
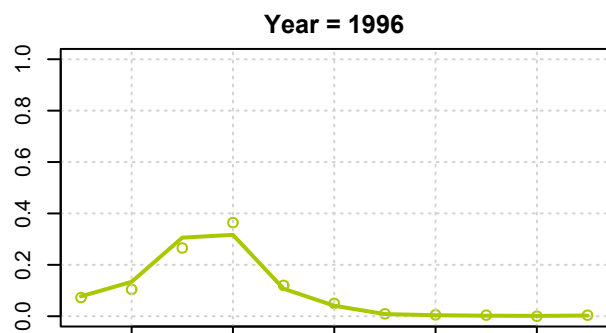
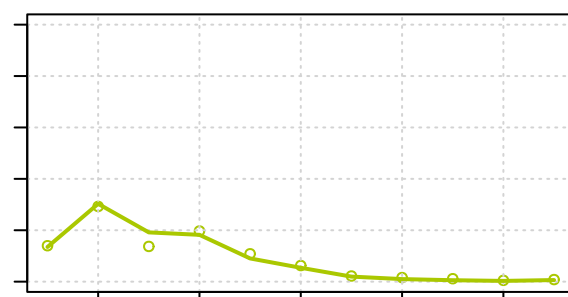
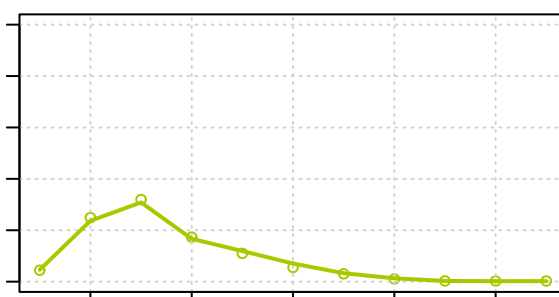
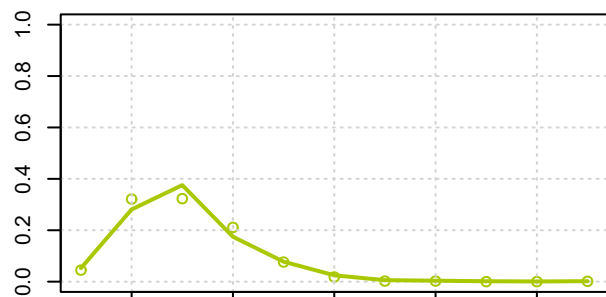
Index 3  
Year = 1985



Proportion

Age

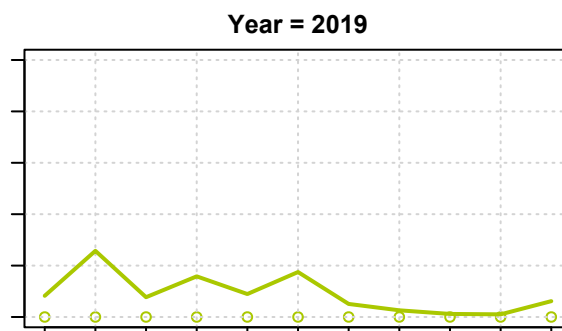
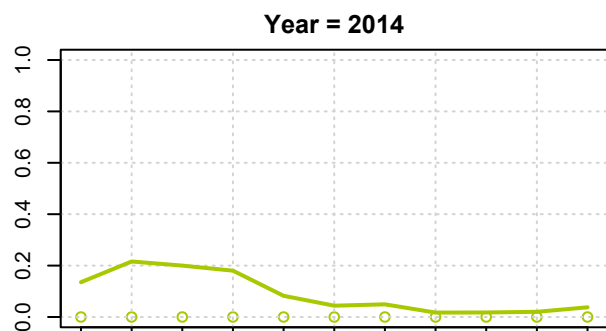
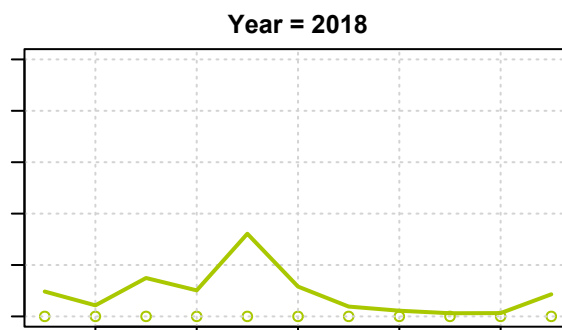
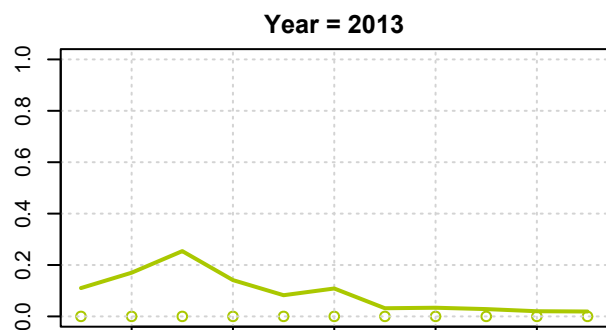
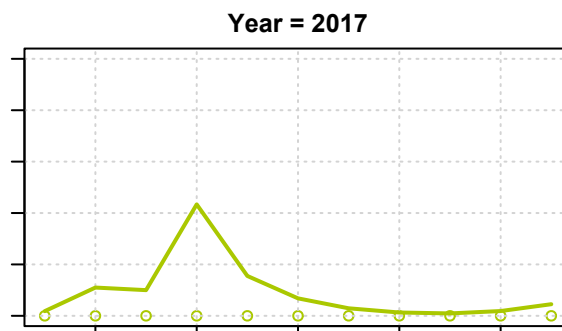
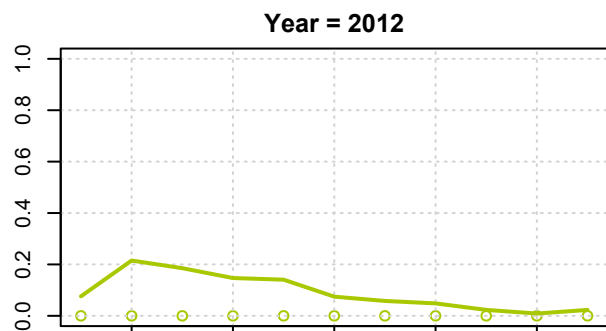
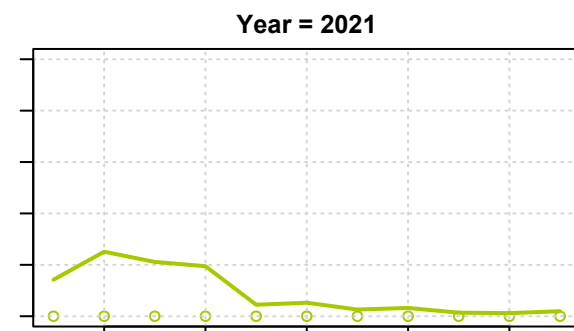
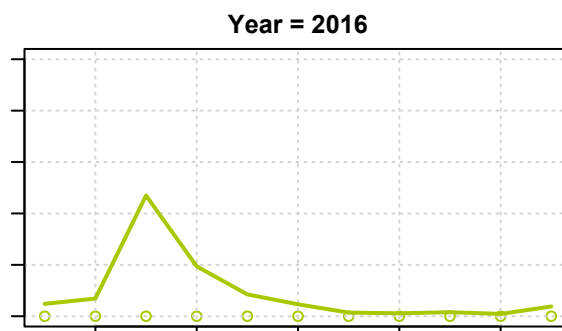
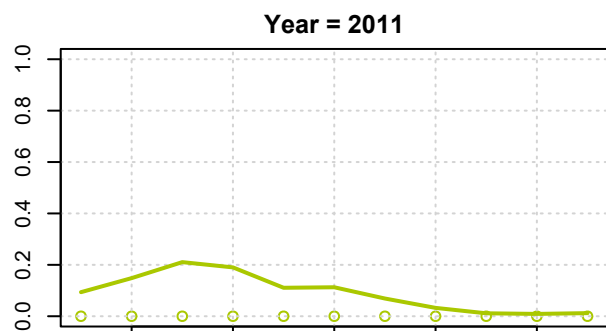
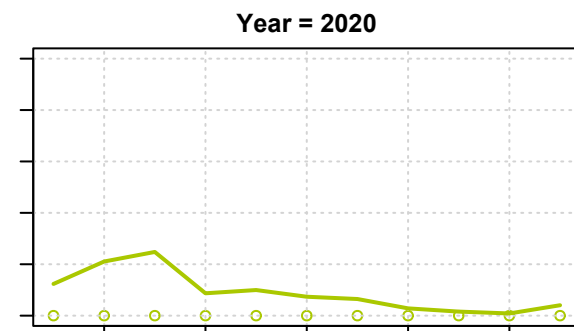
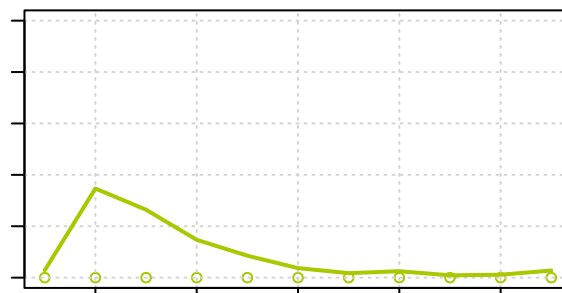
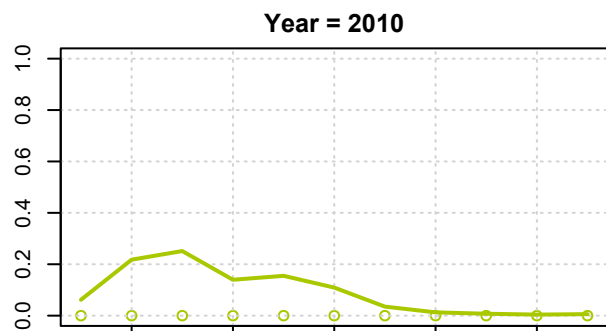
Index 3  
Year = 2000



Proportion

Age

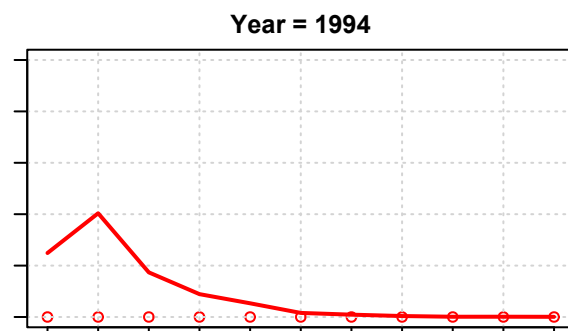
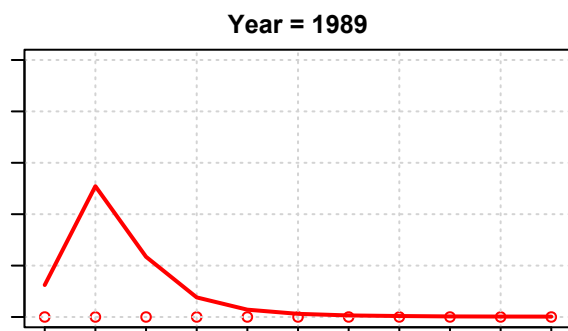
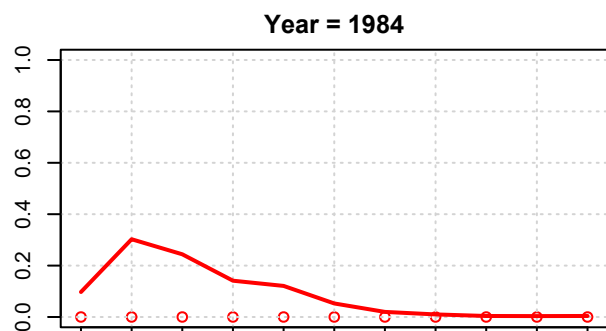
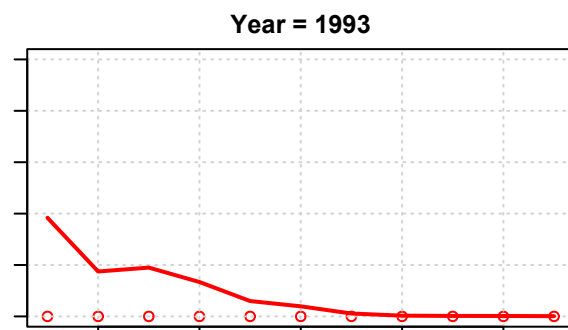
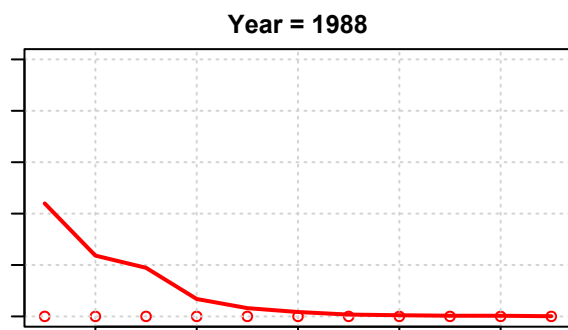
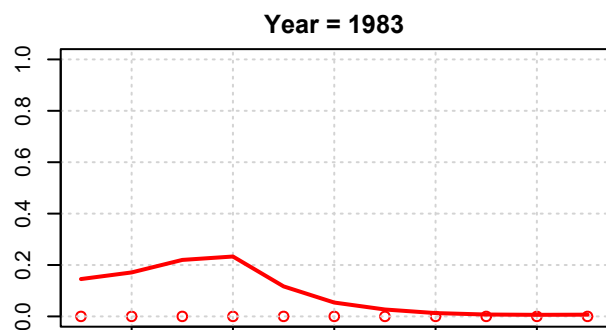
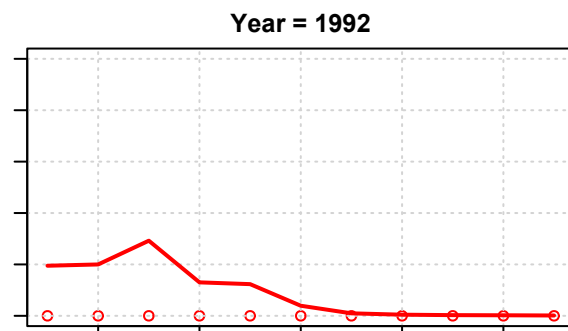
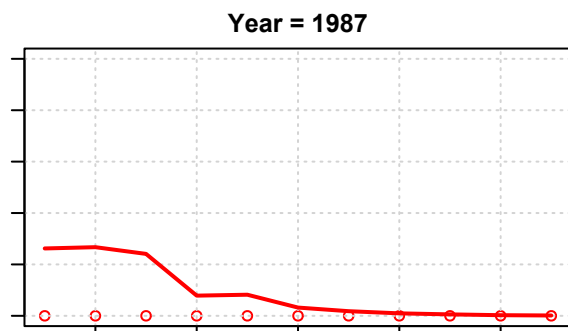
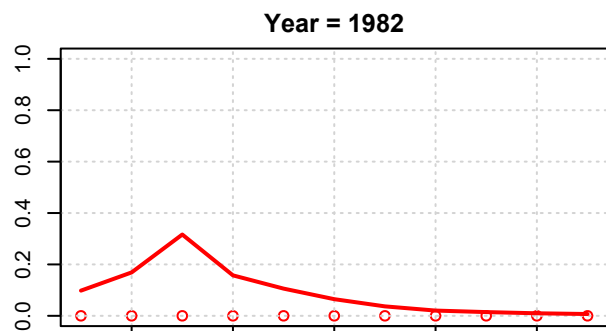
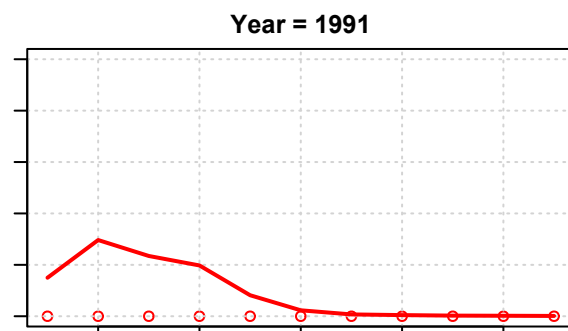
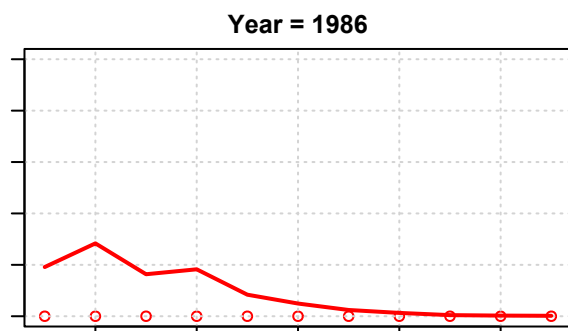
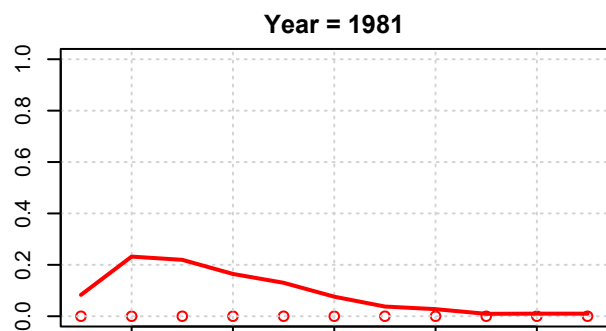
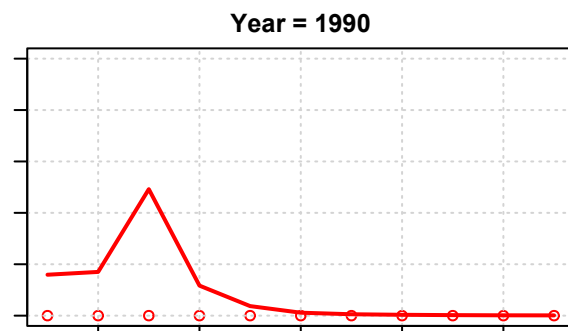
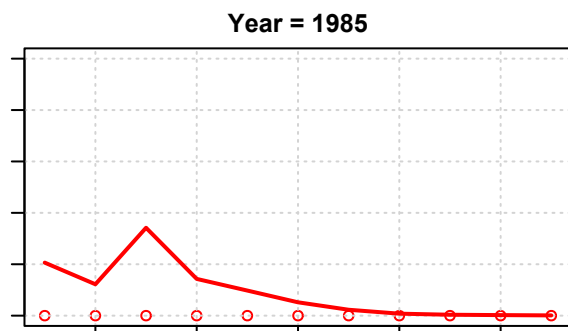
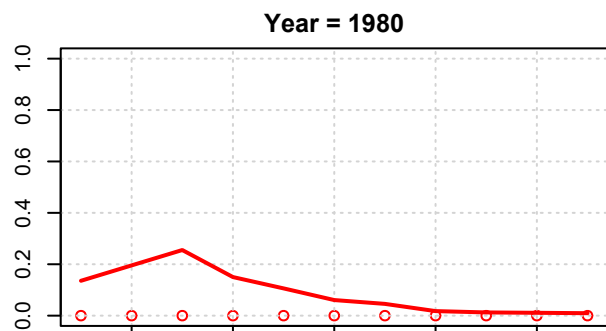
Index 3  
Year = 2015



Proportion

Age

Index 4  
Year = 1985

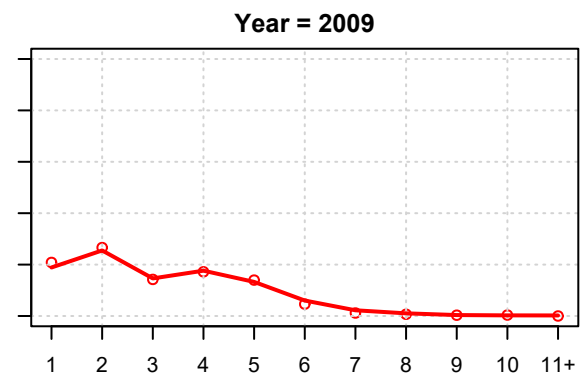
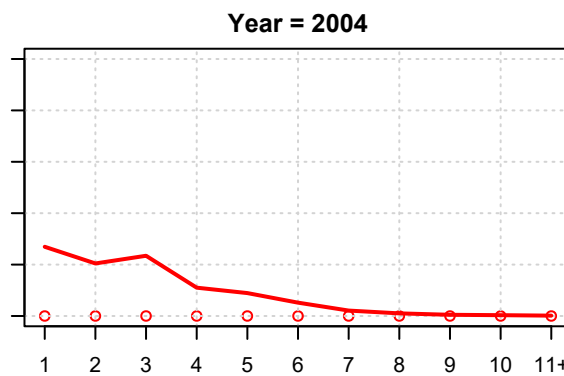
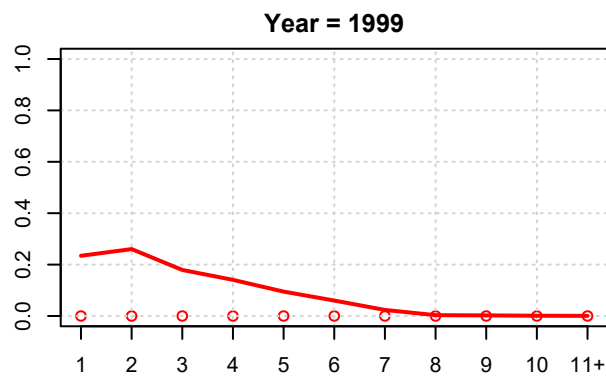
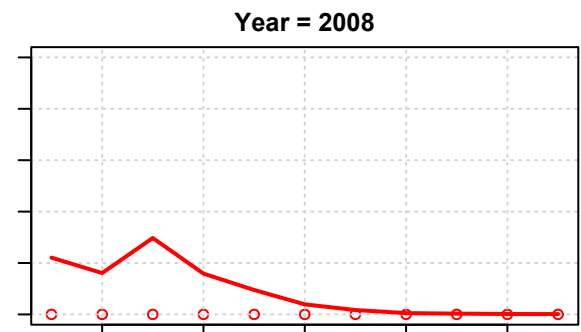
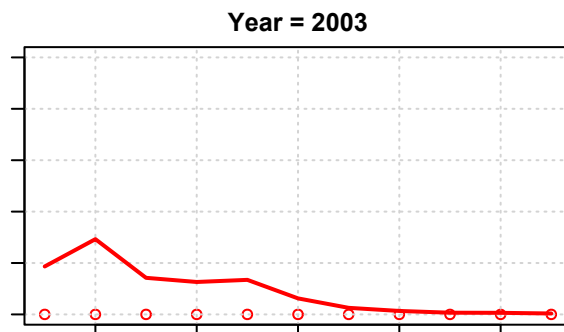
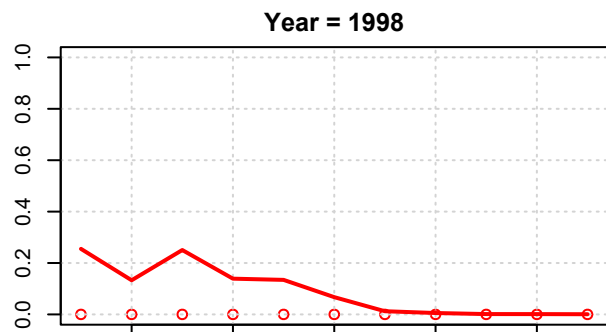
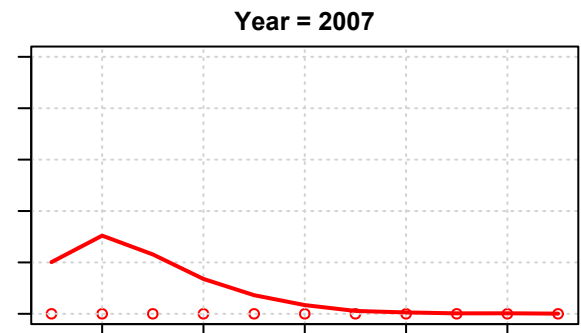
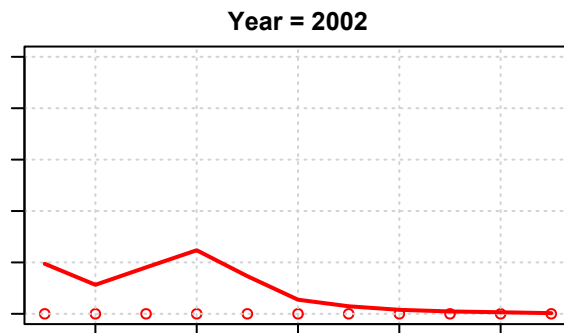
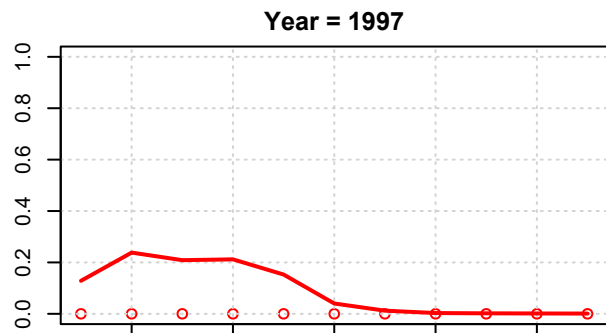
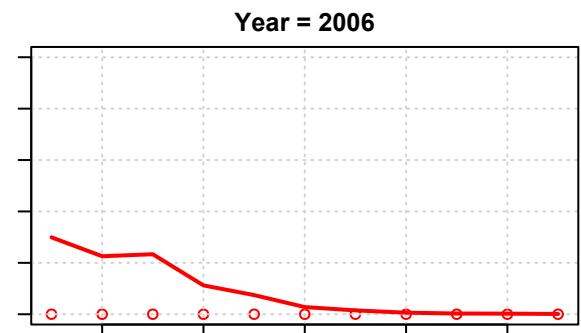
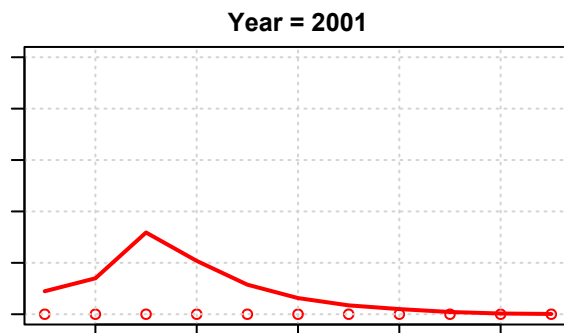
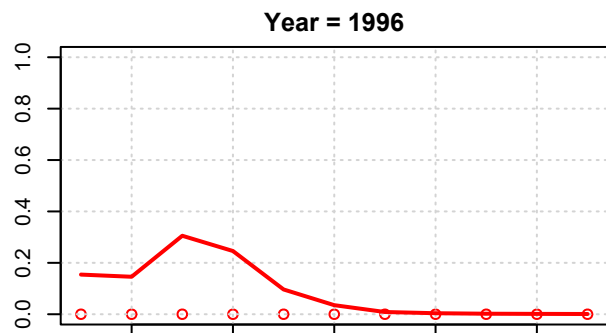
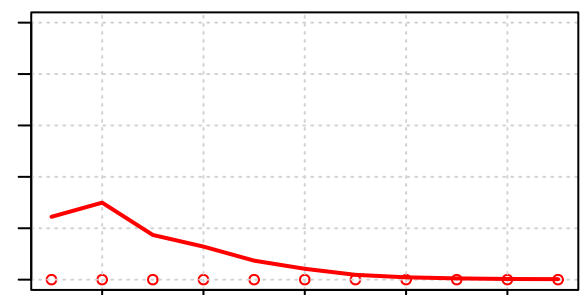
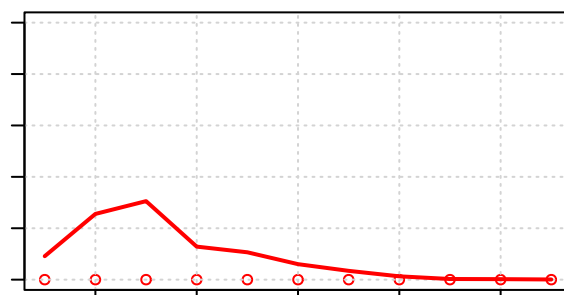
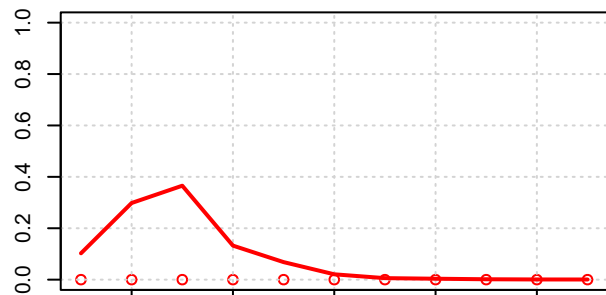


Proportion

Age



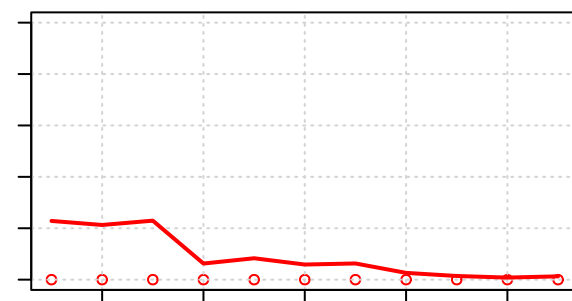
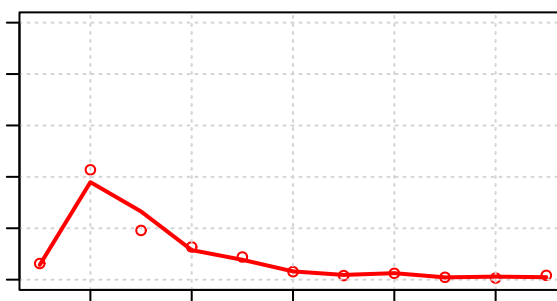
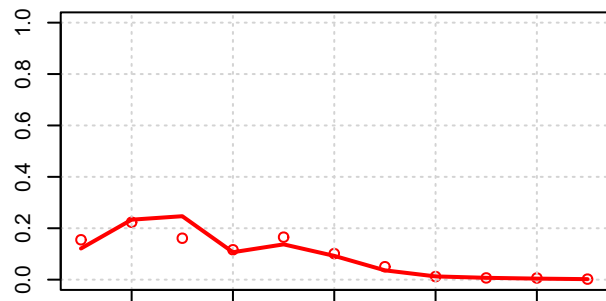
Index 4  
Year = 2000



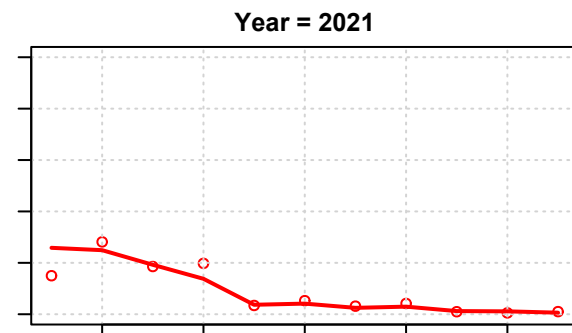
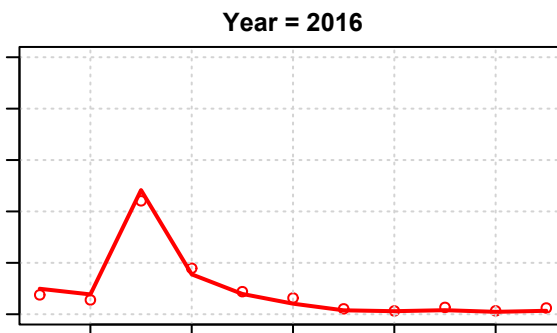
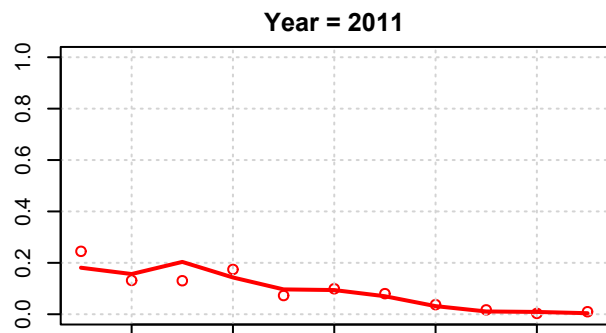
Proportion

Age

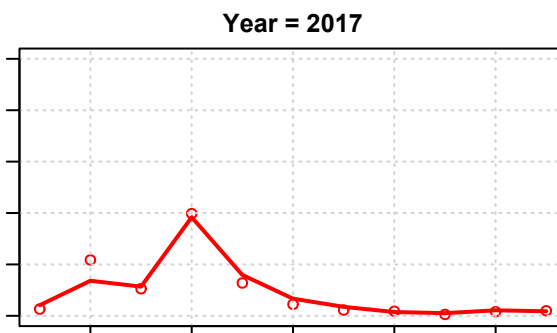
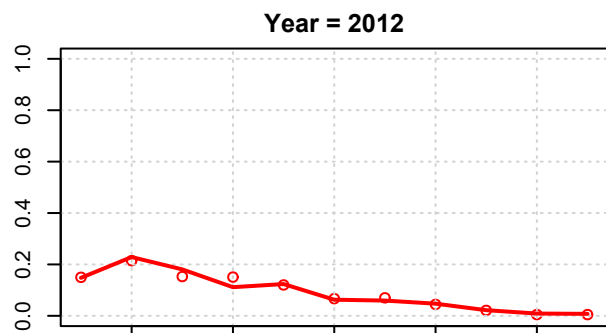
Index 4  
Year = 2015



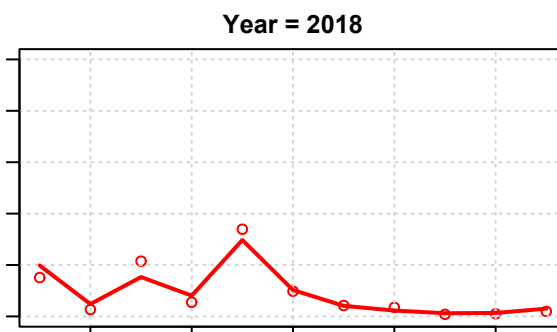
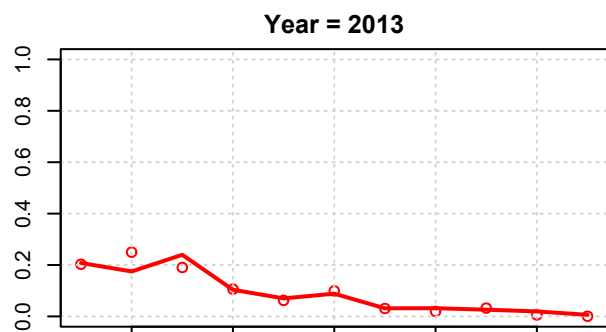
Year = 2016



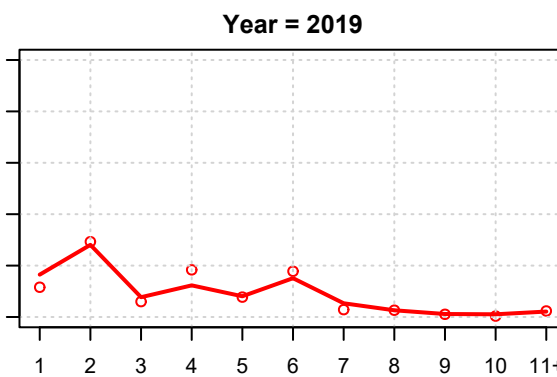
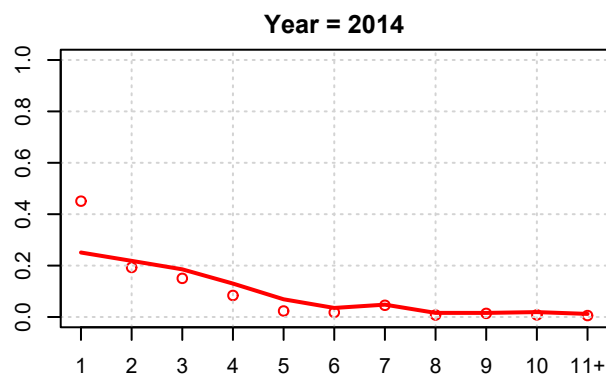
Year = 2017



Year = 2018

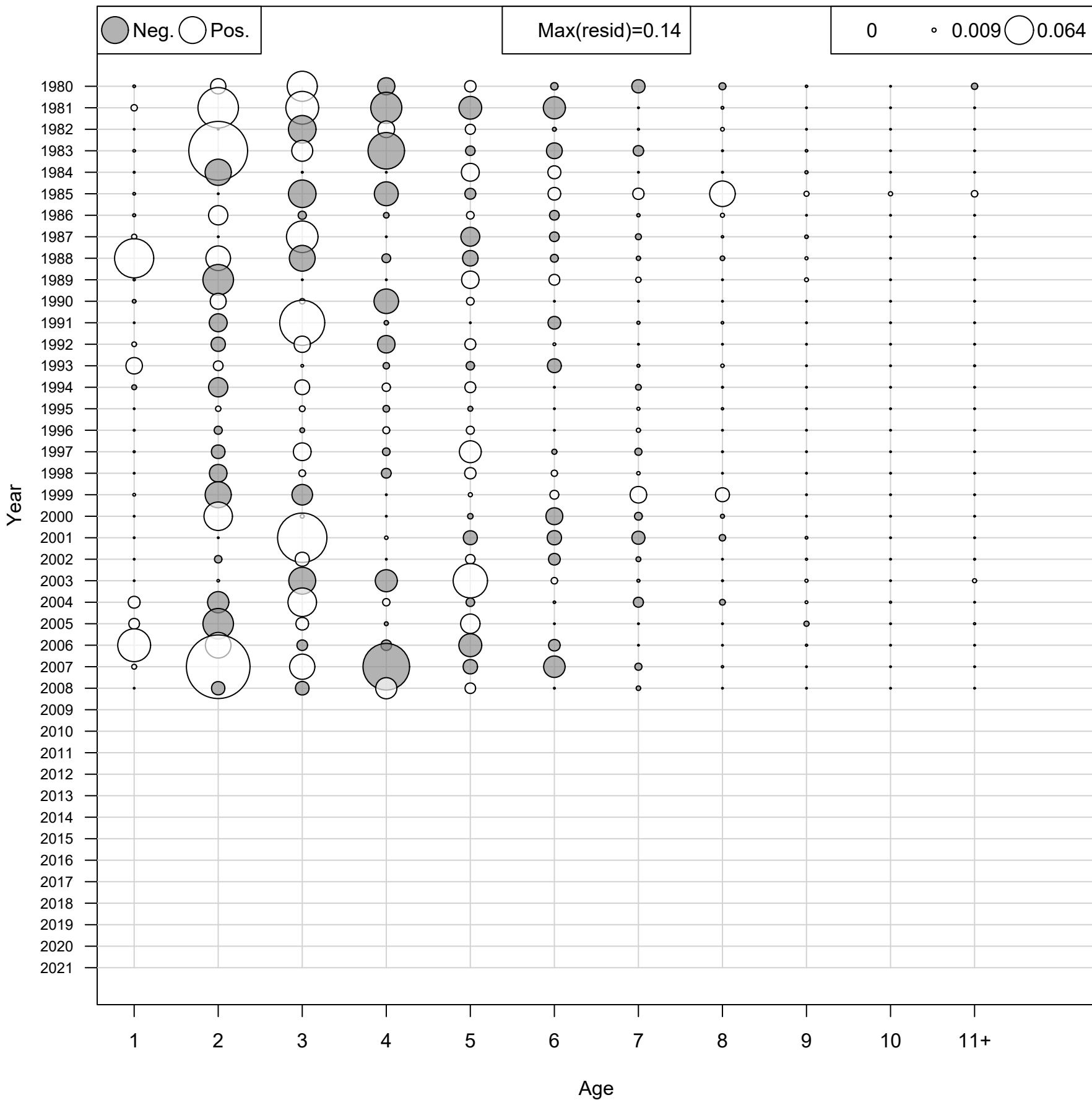


Year = 2019

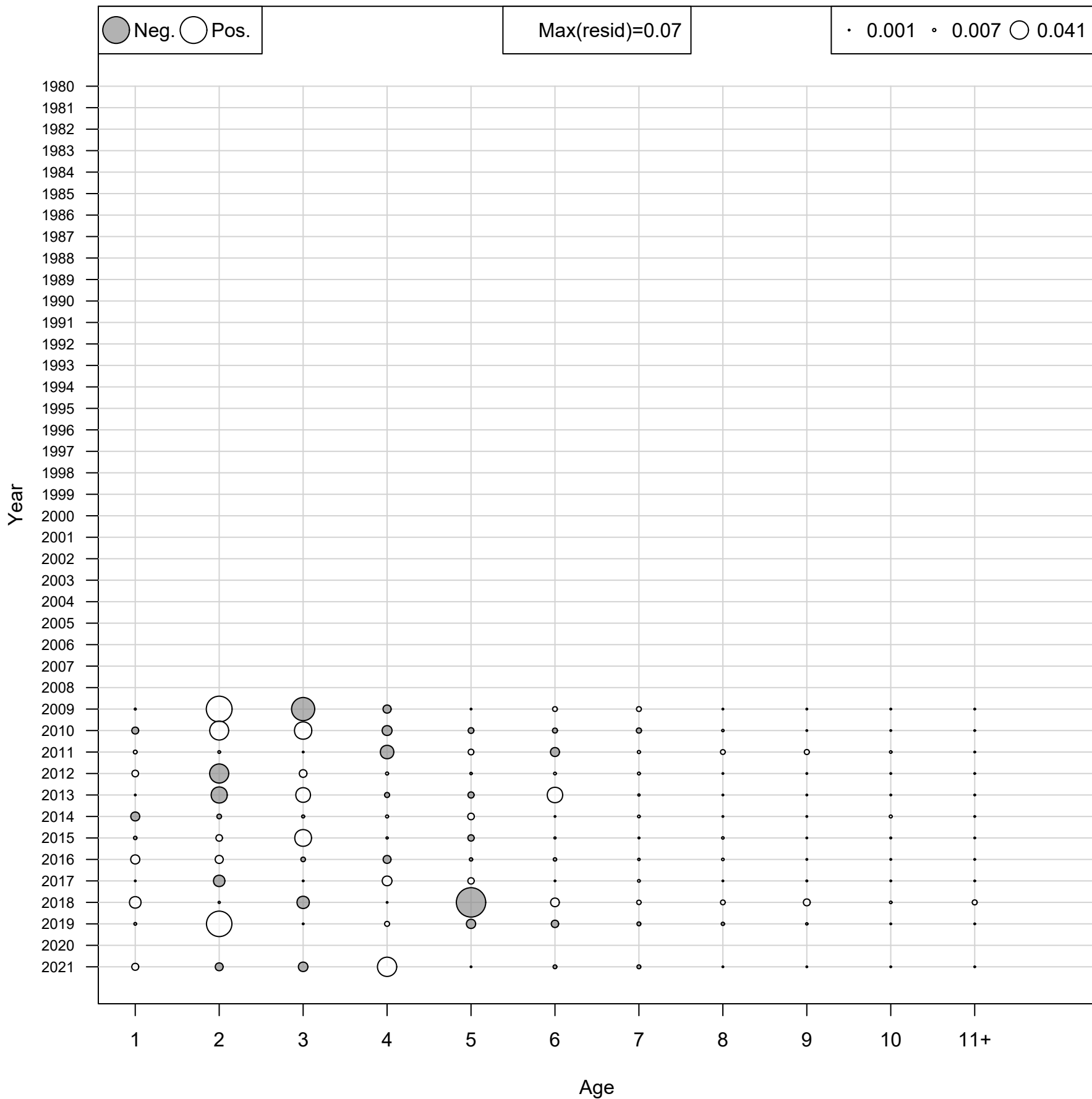


Age

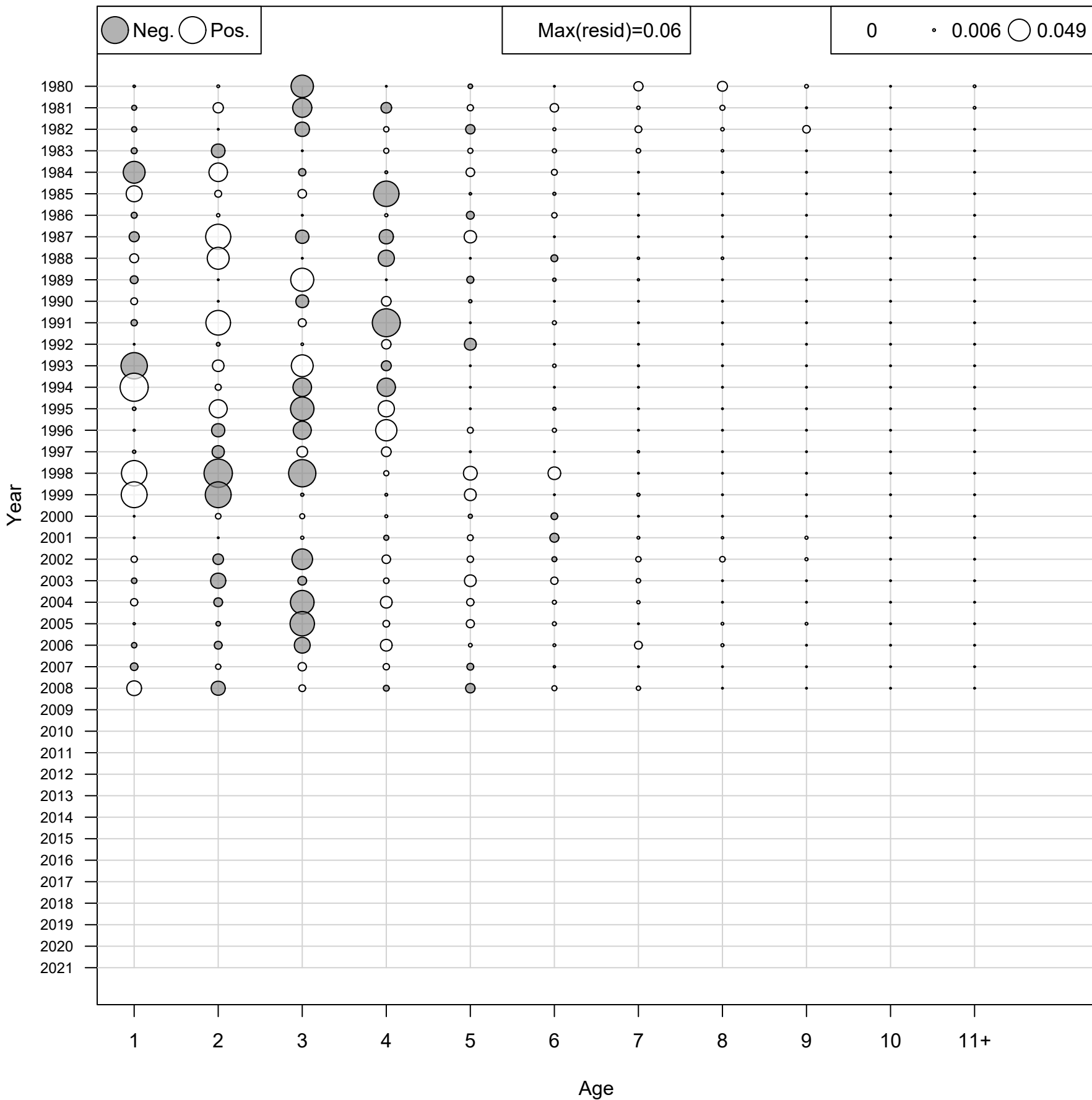
# Age Comp Residuals (Observed-Predicted) for Index 1



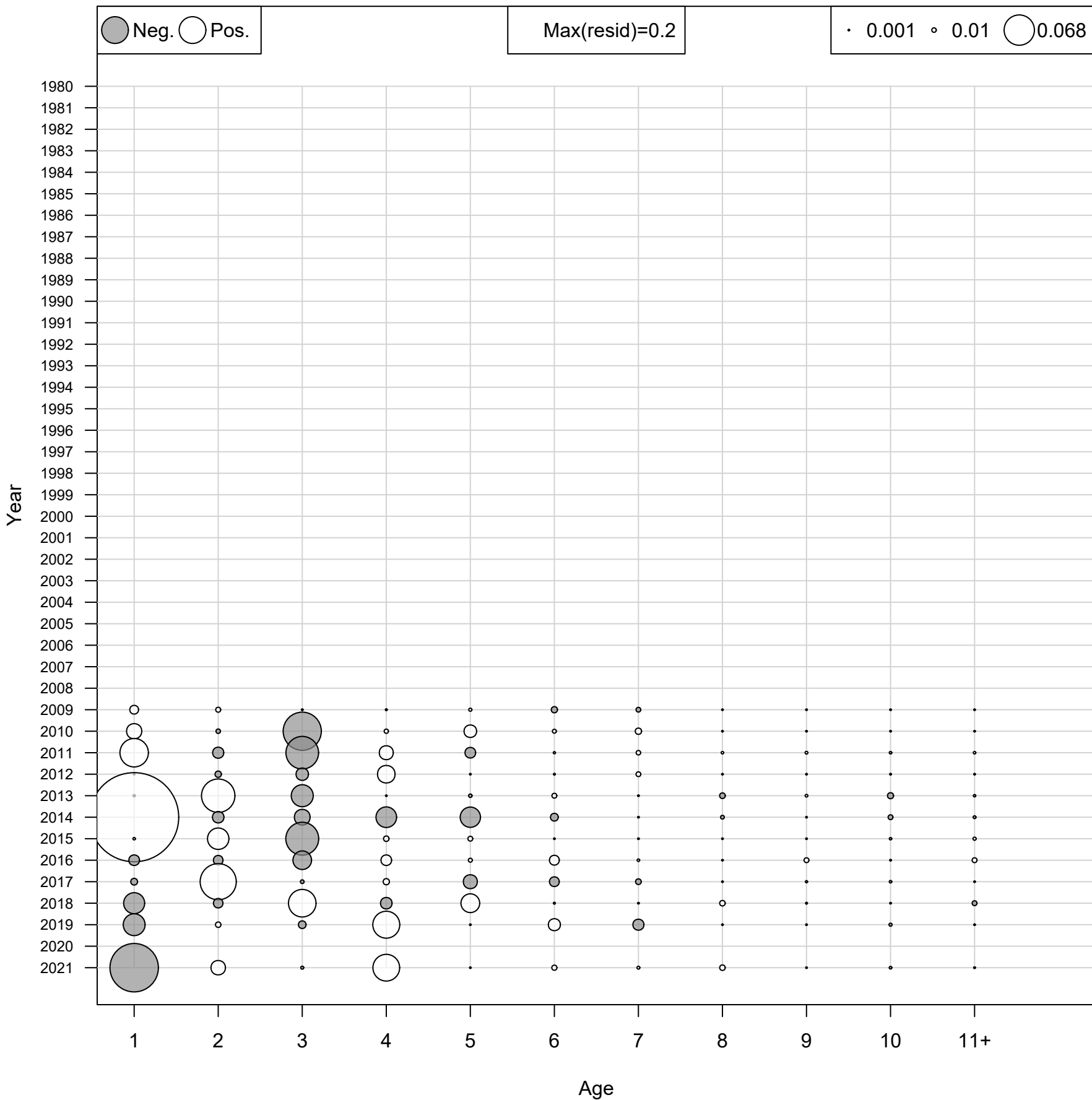
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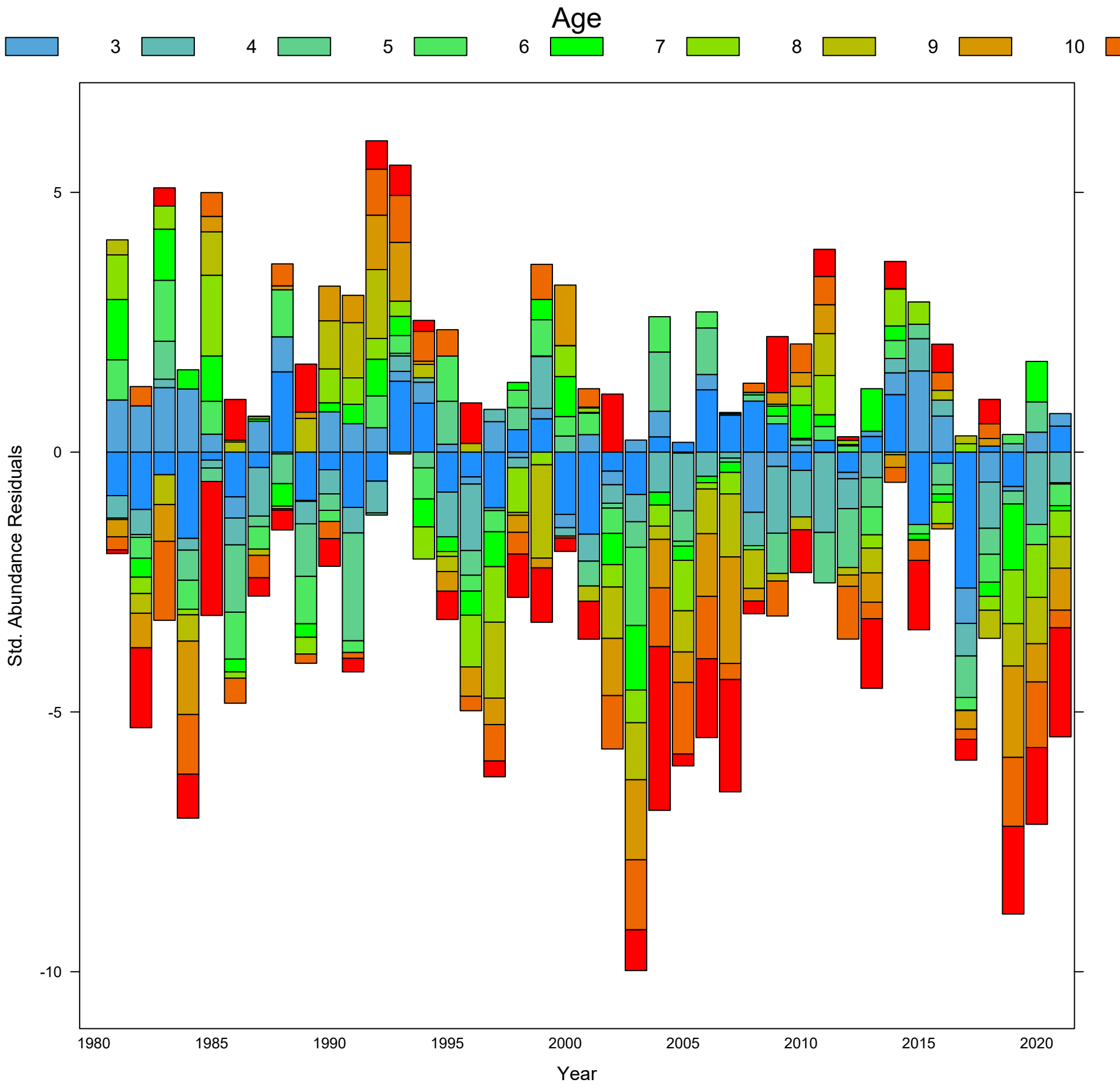


# Age Comp Residuals (Observed-Predicted) for Index 3

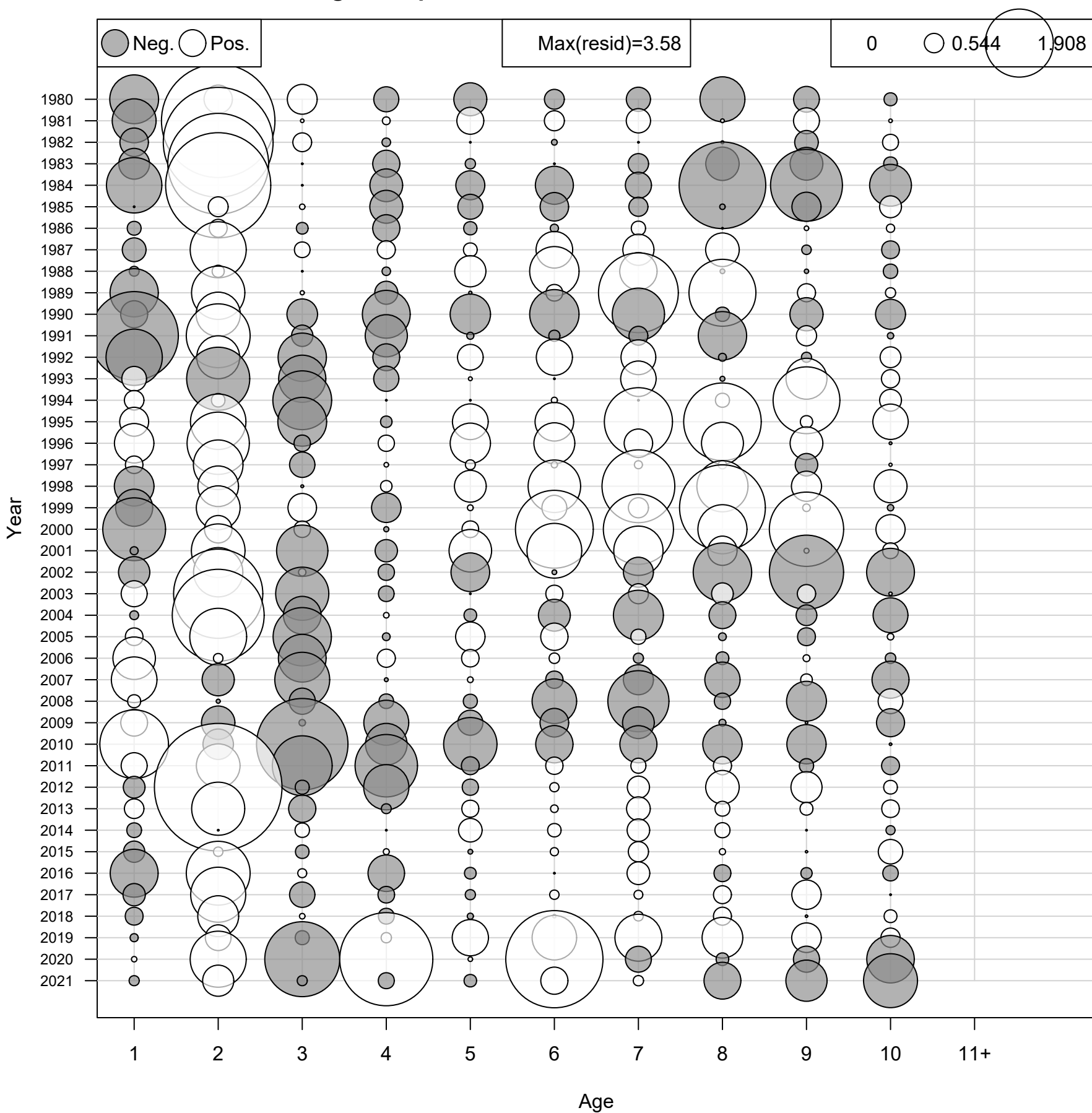


### Age Comp Residuals (Observed-Predicted) for Index 4



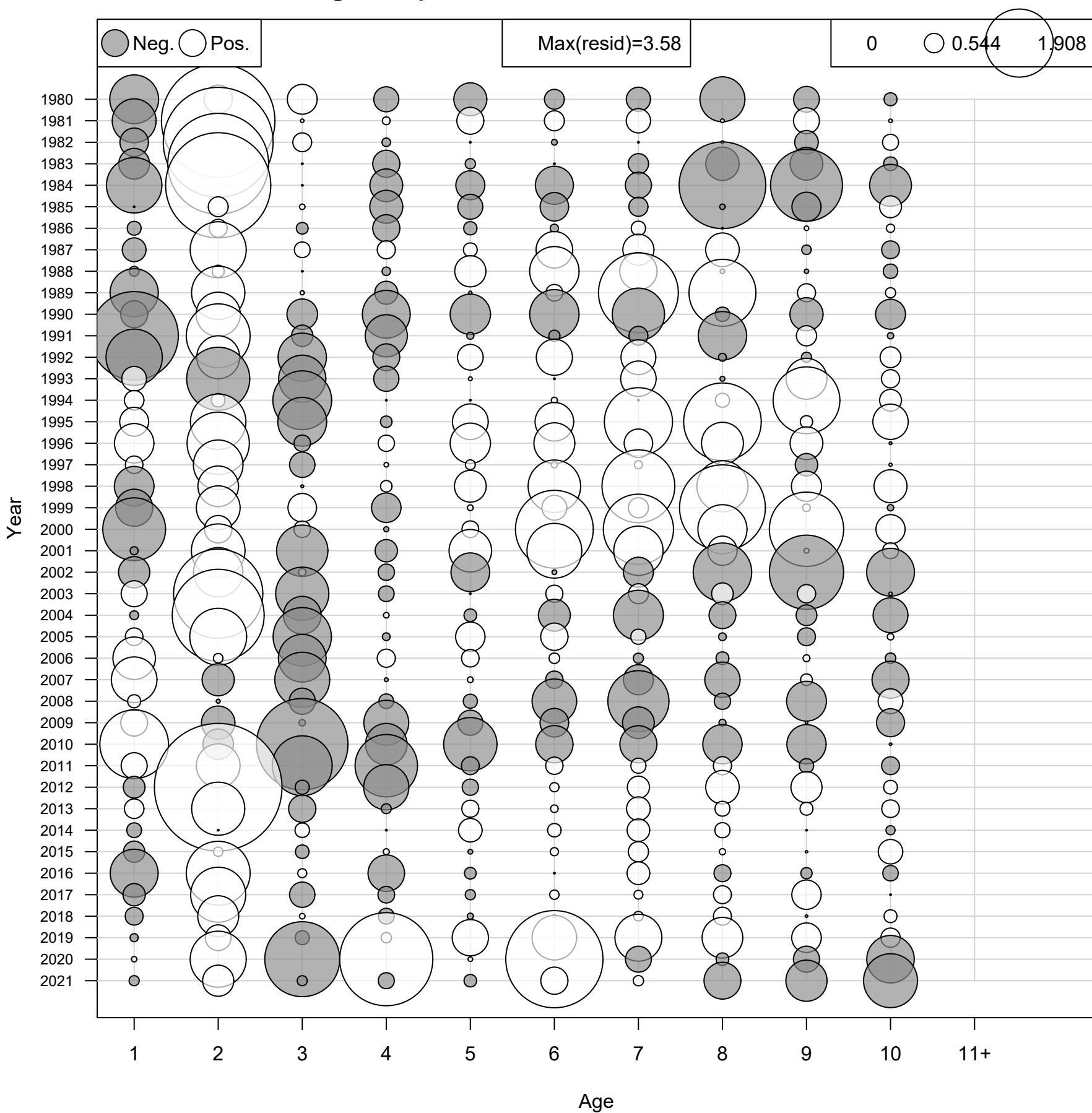


# Age Comp OSA Quantile Residuals for Fleet 1

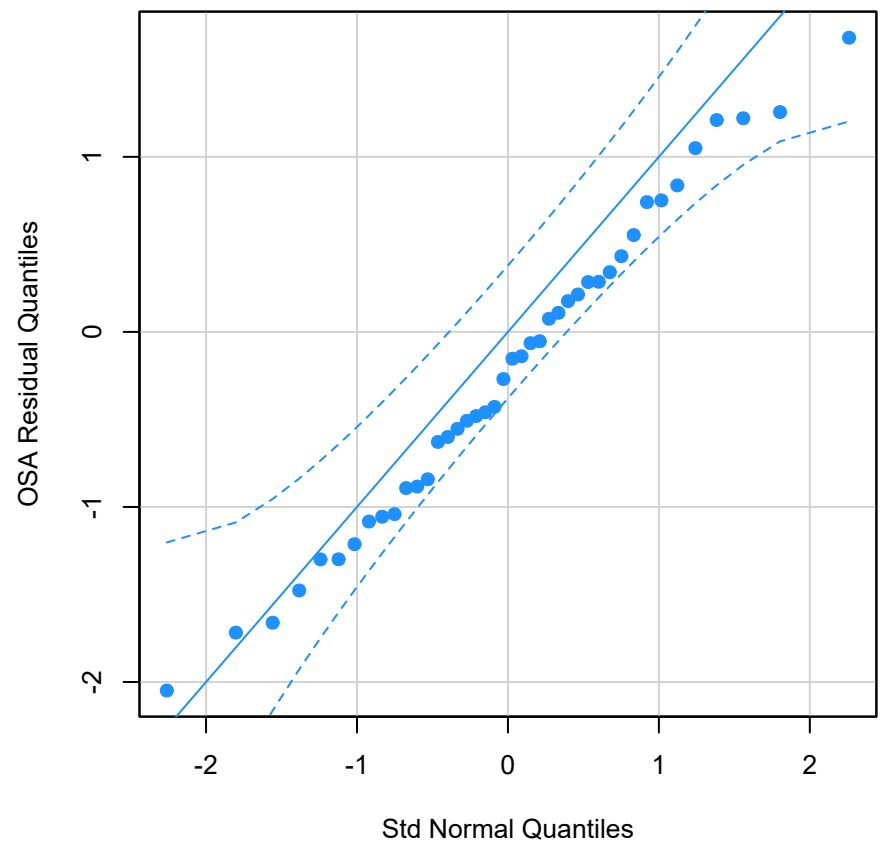
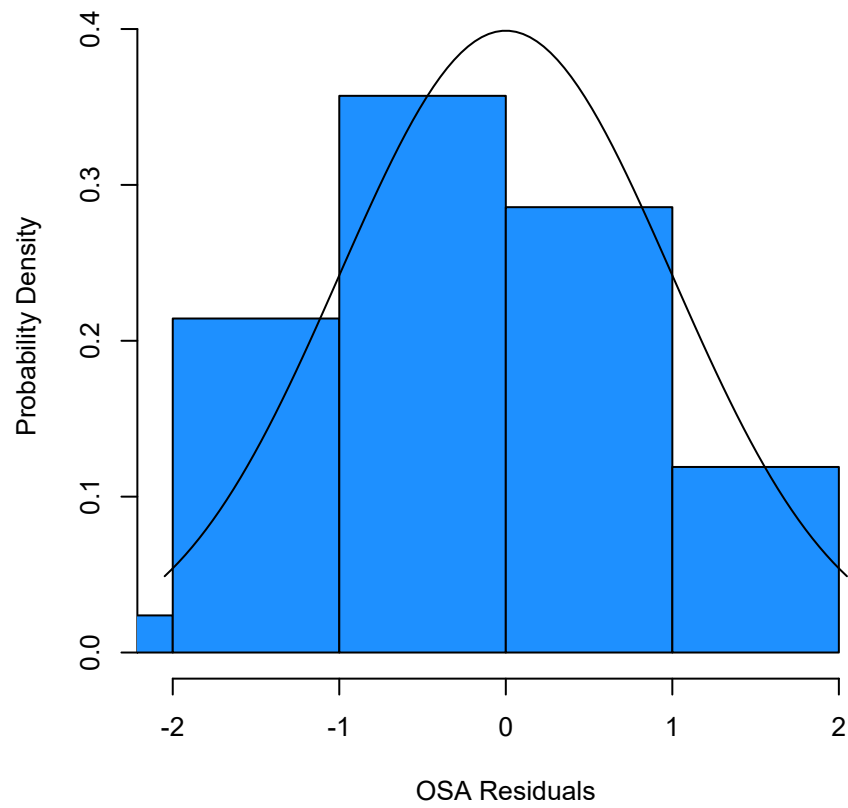
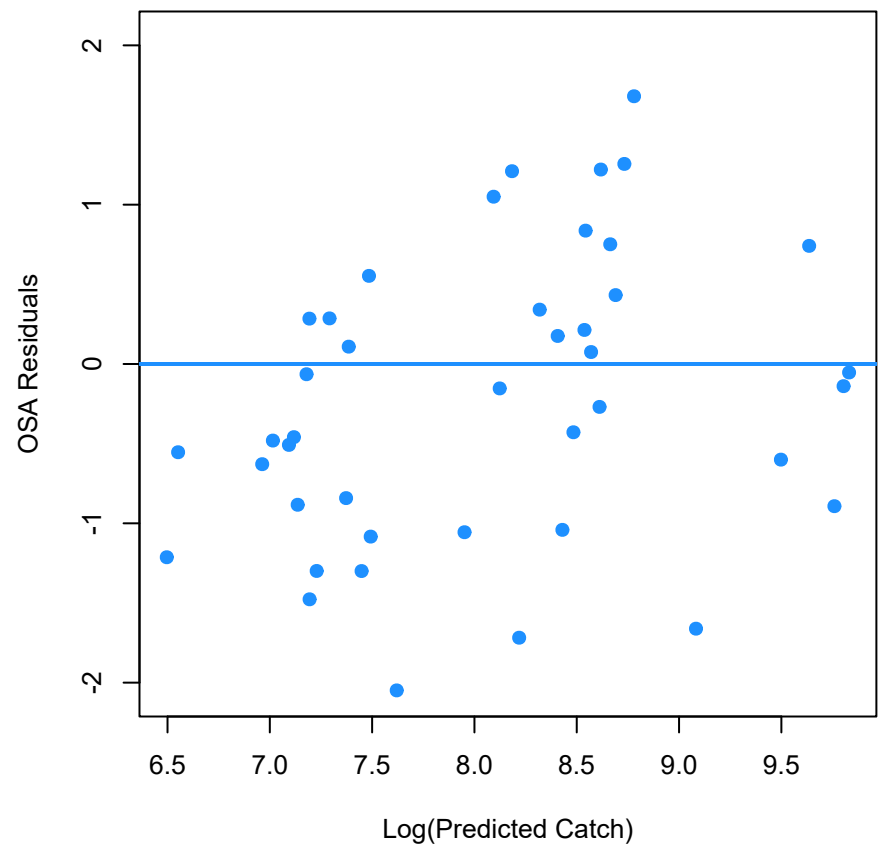
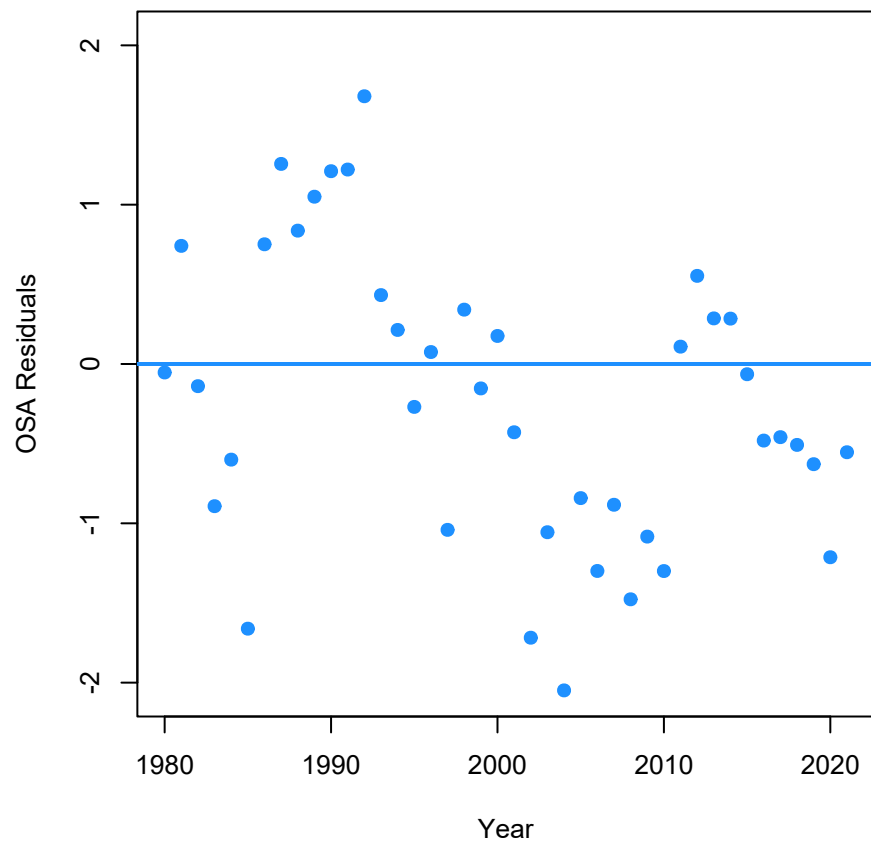




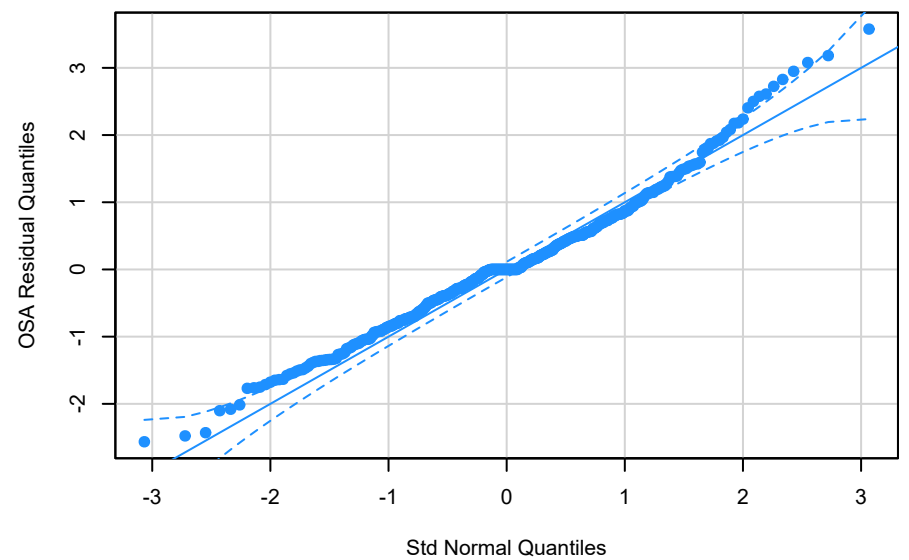
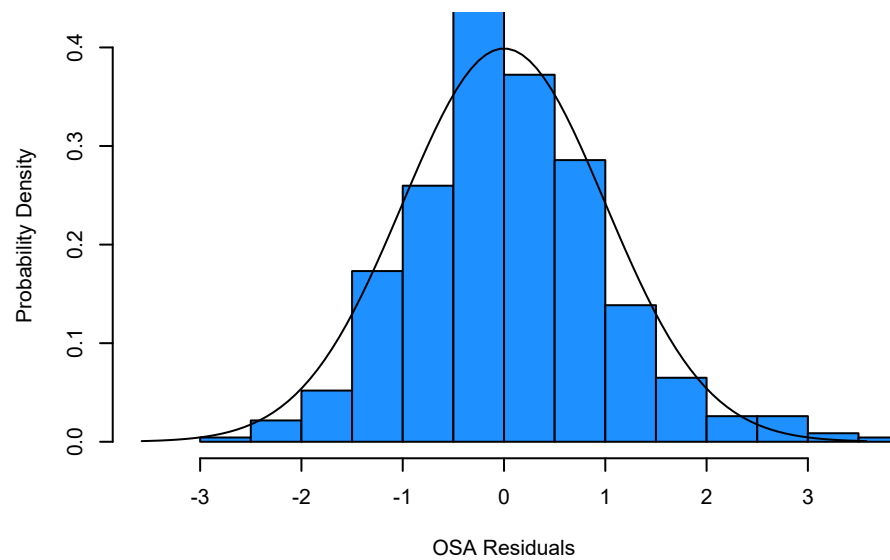
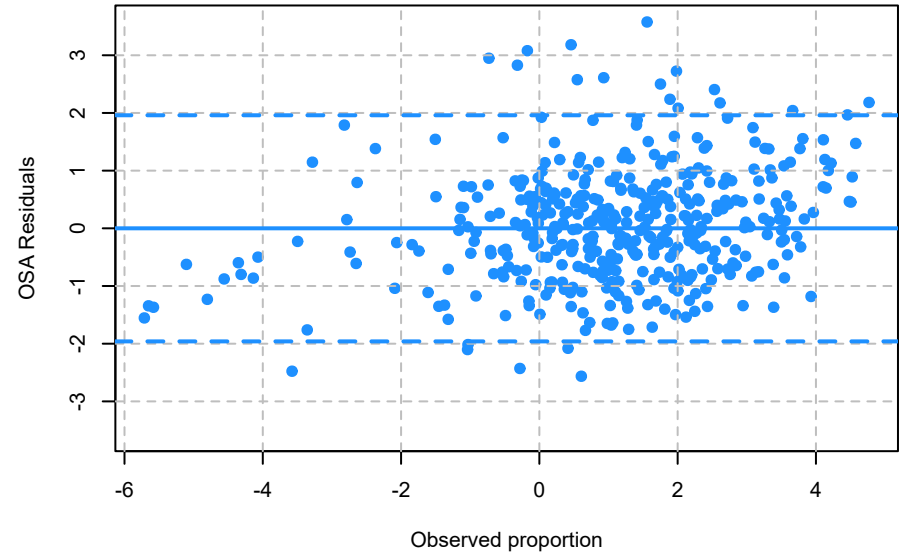
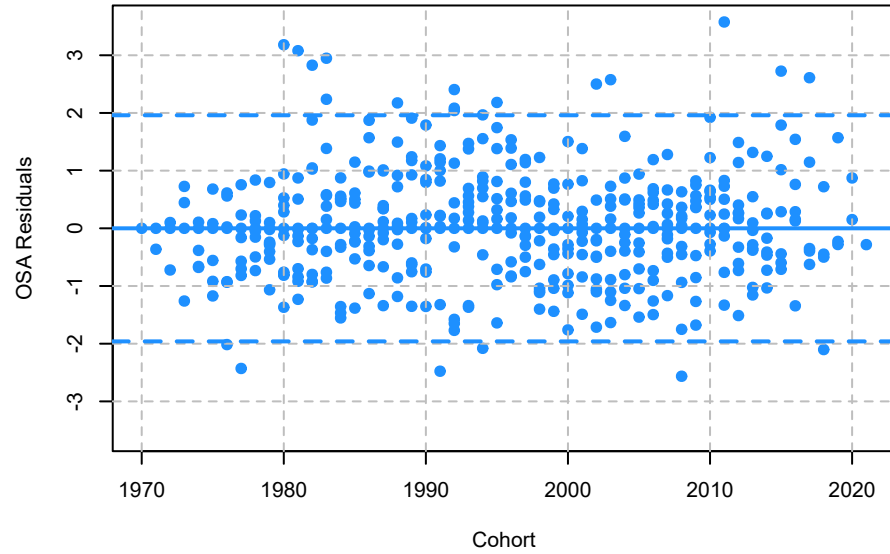
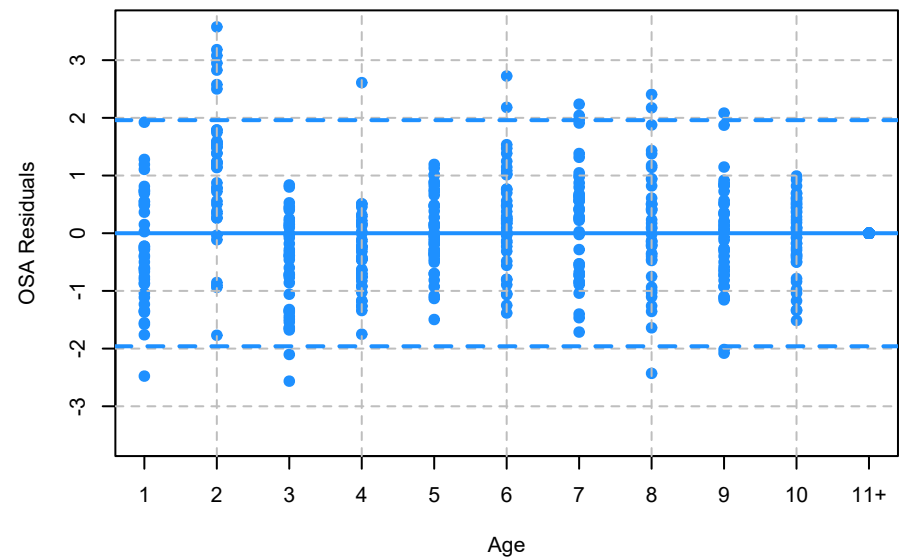
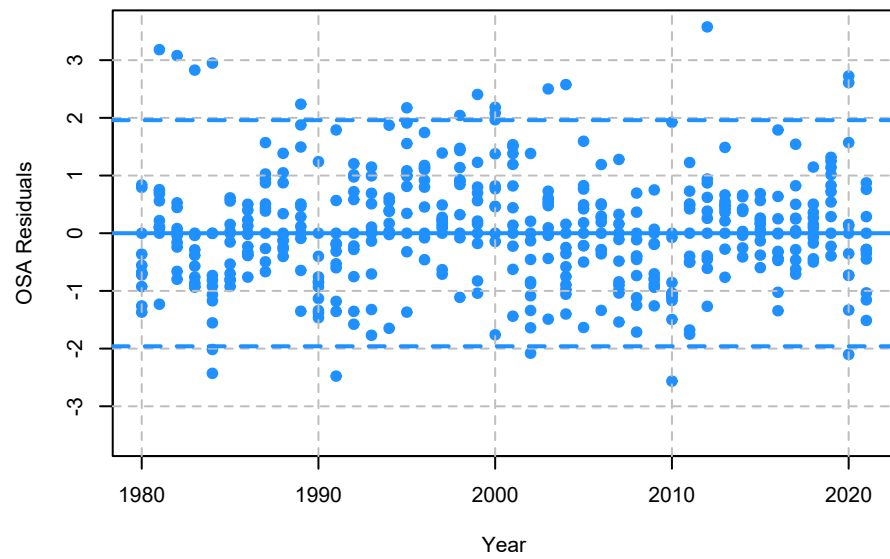
# Age Comp OSA Quantile Residuals for Fleet 1



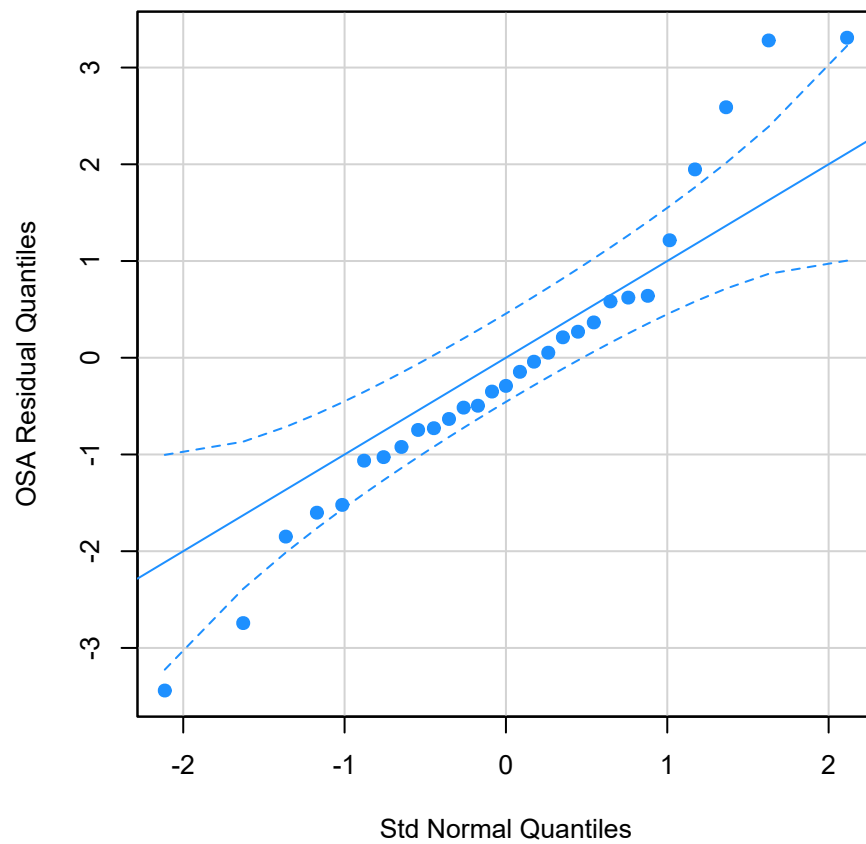
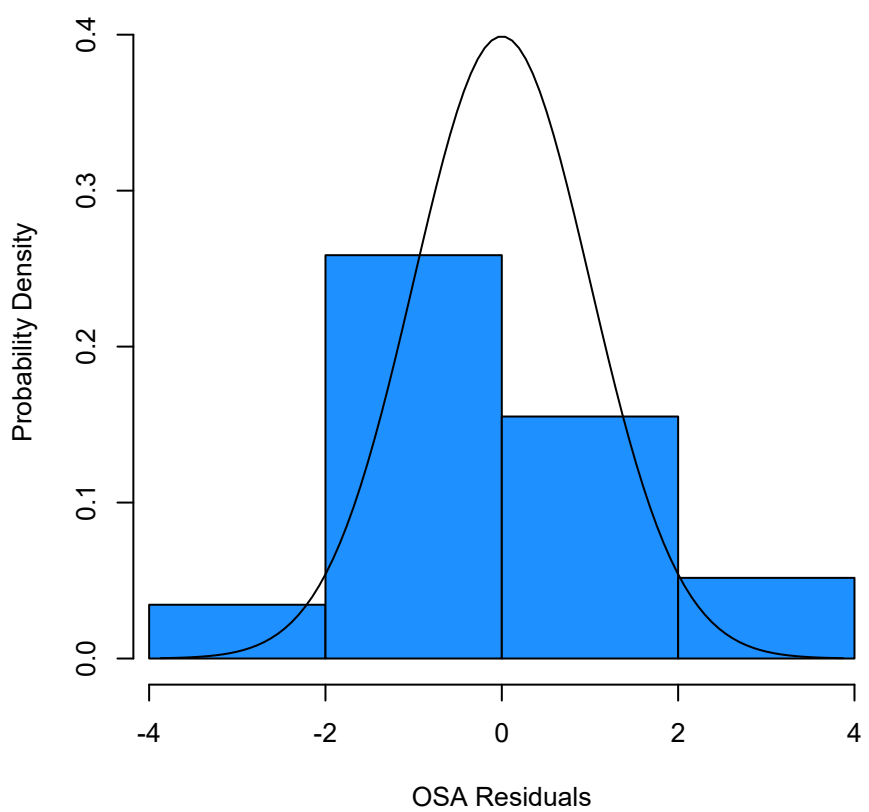
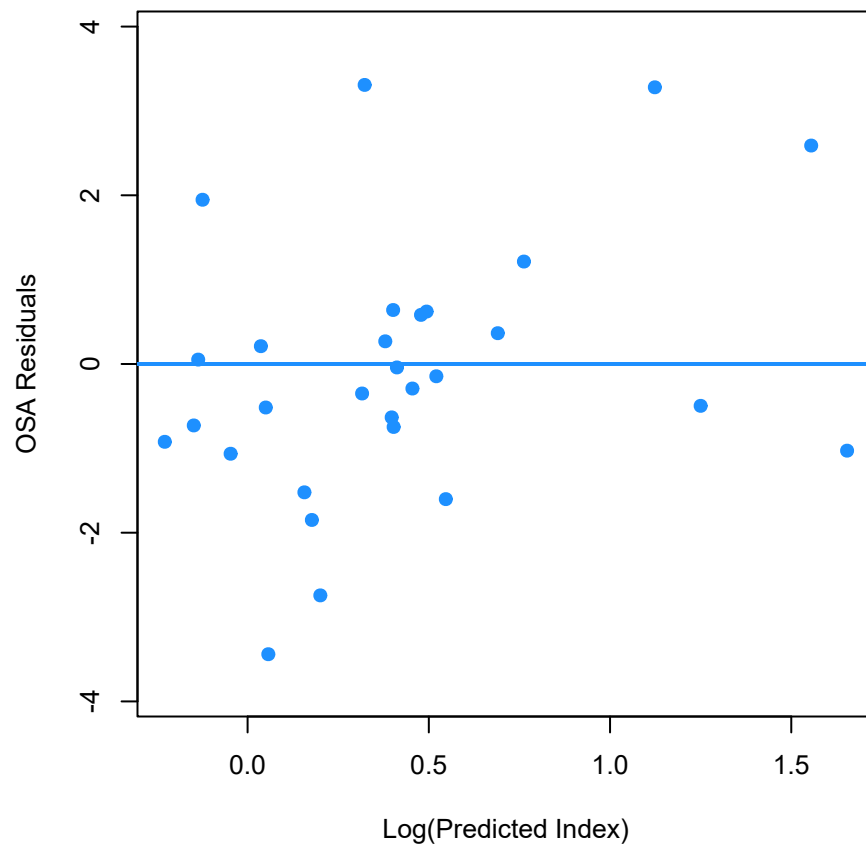
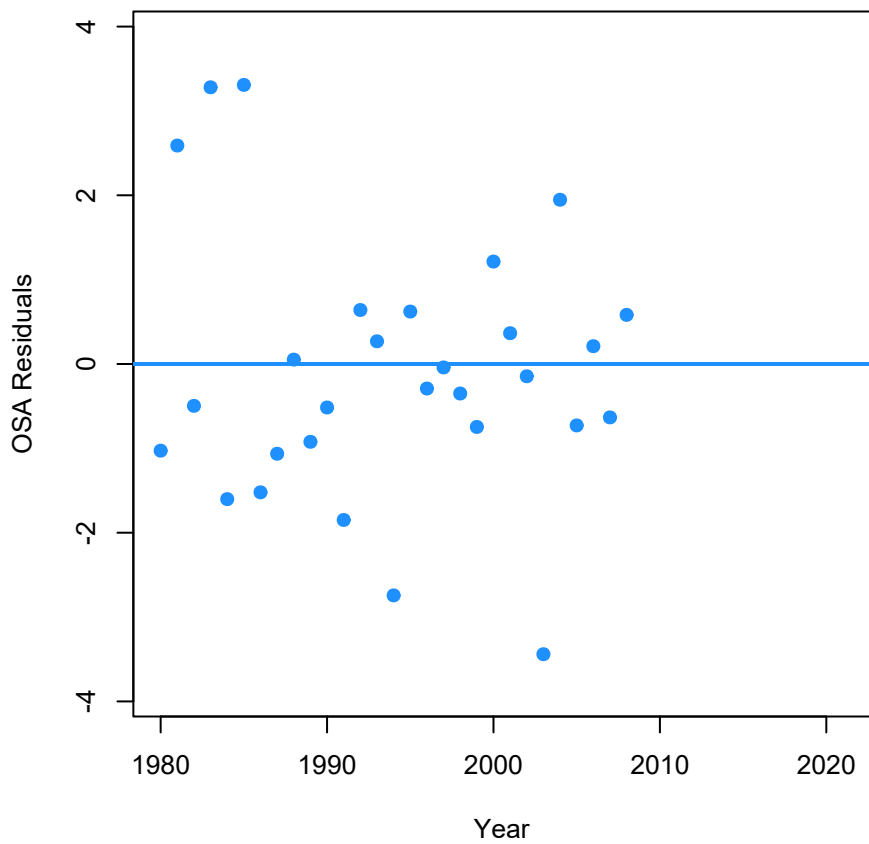
# OSA residual diagnostics: Fleet 1



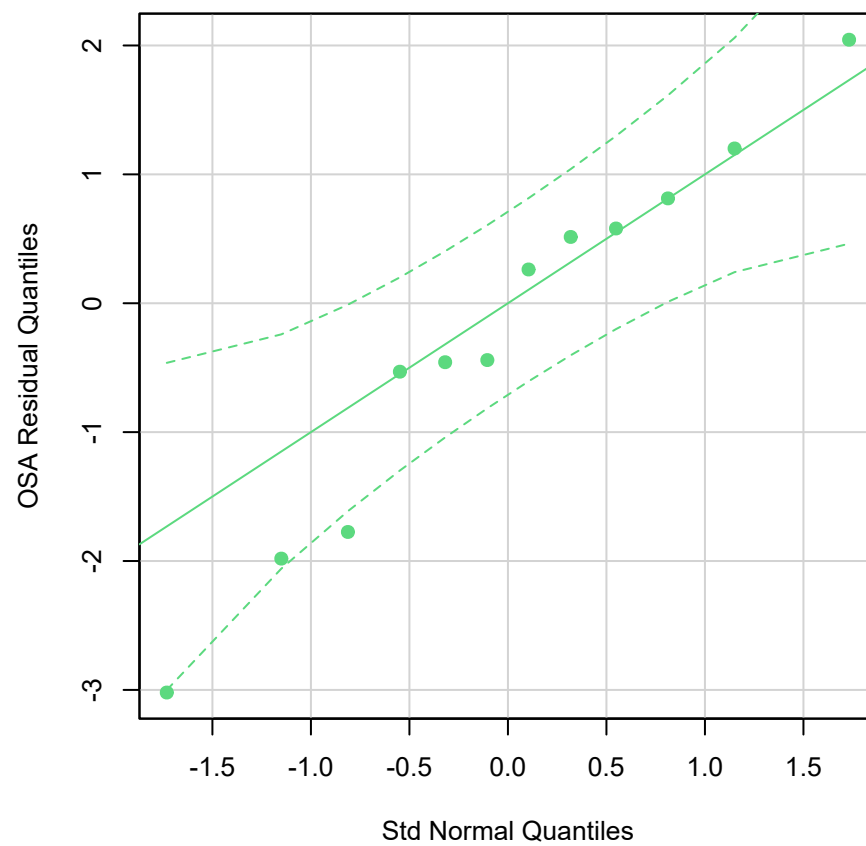
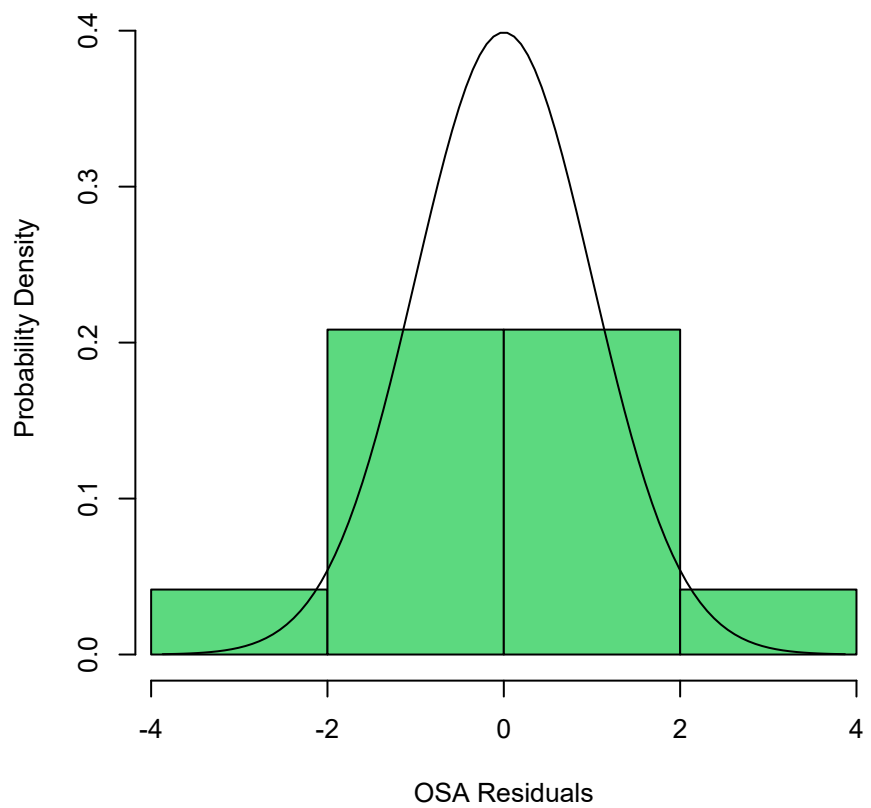
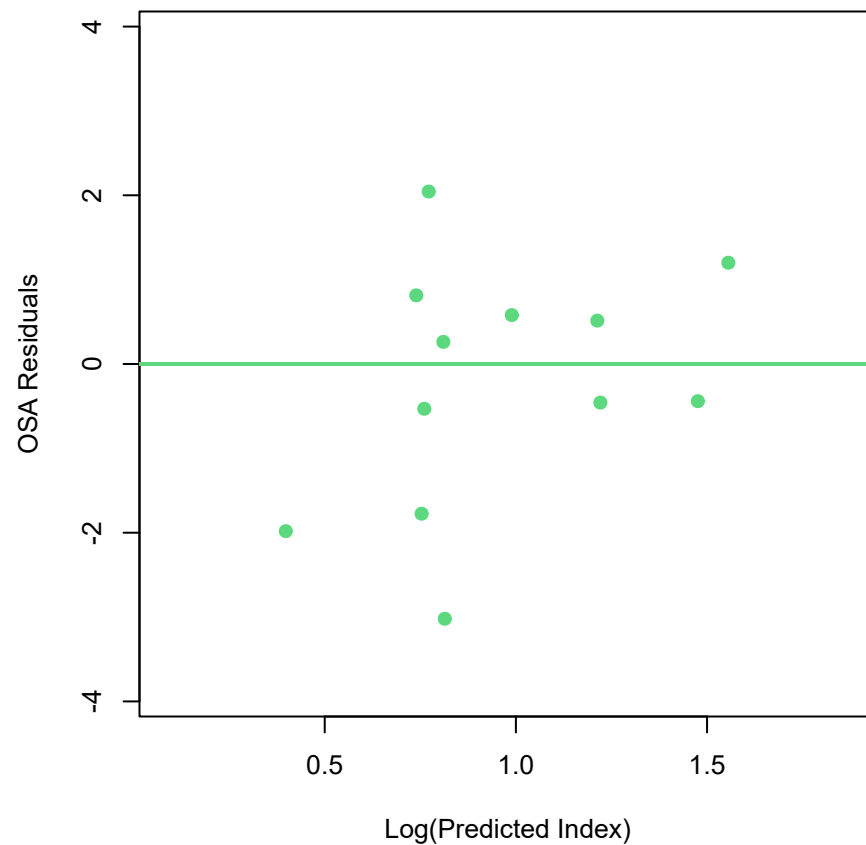
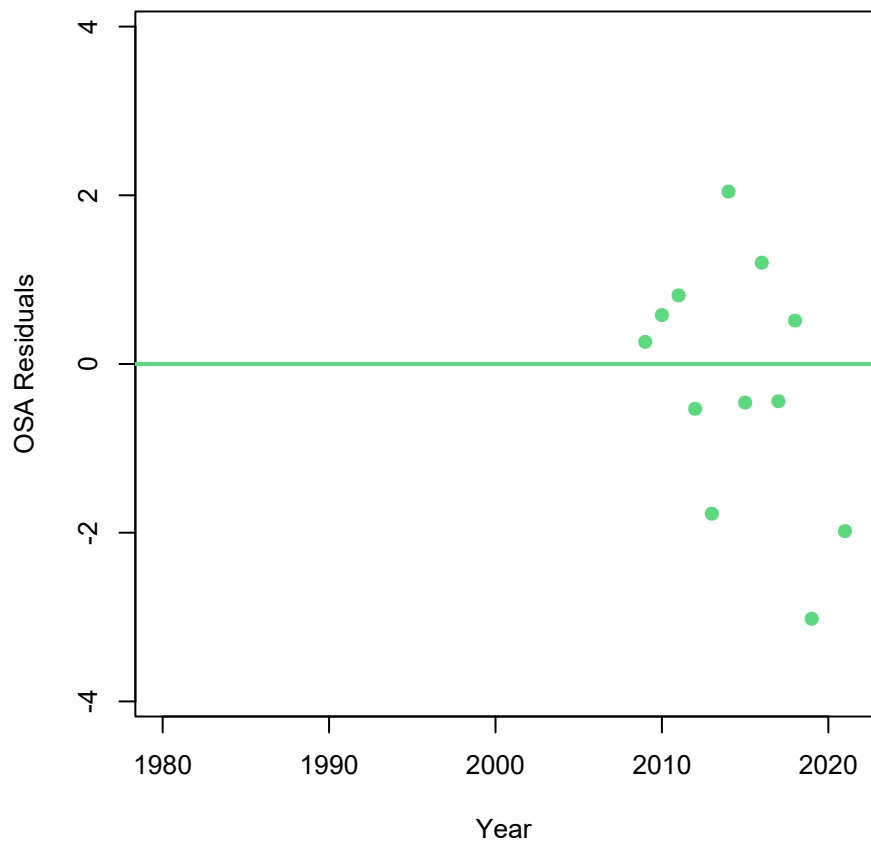
# age composition OSA residual diagnostics: Fleet 1



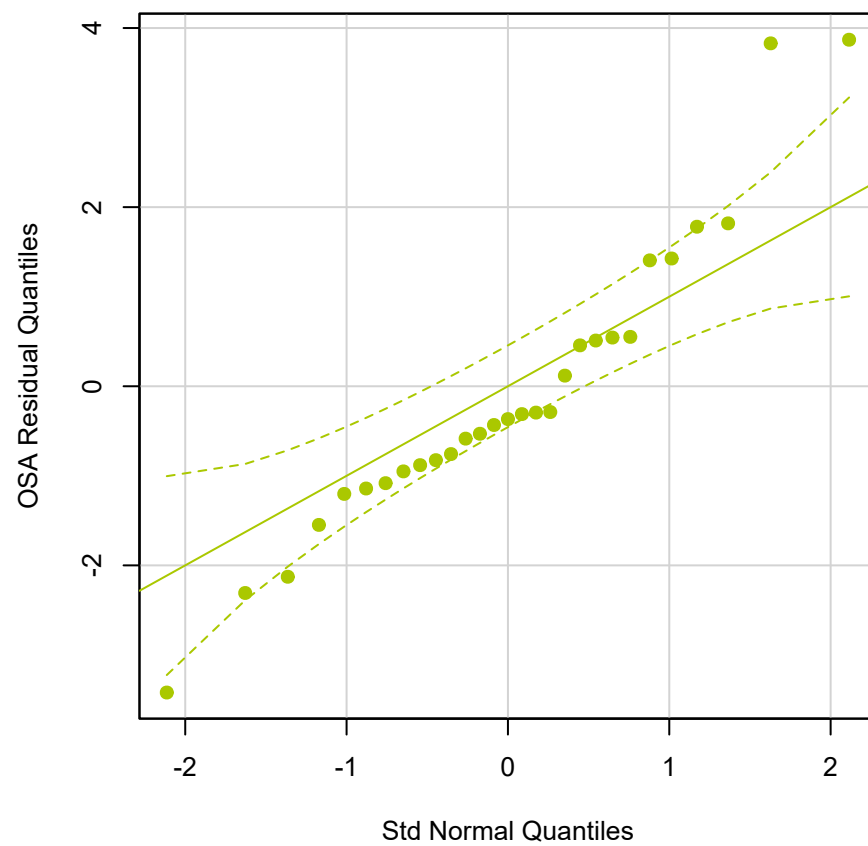
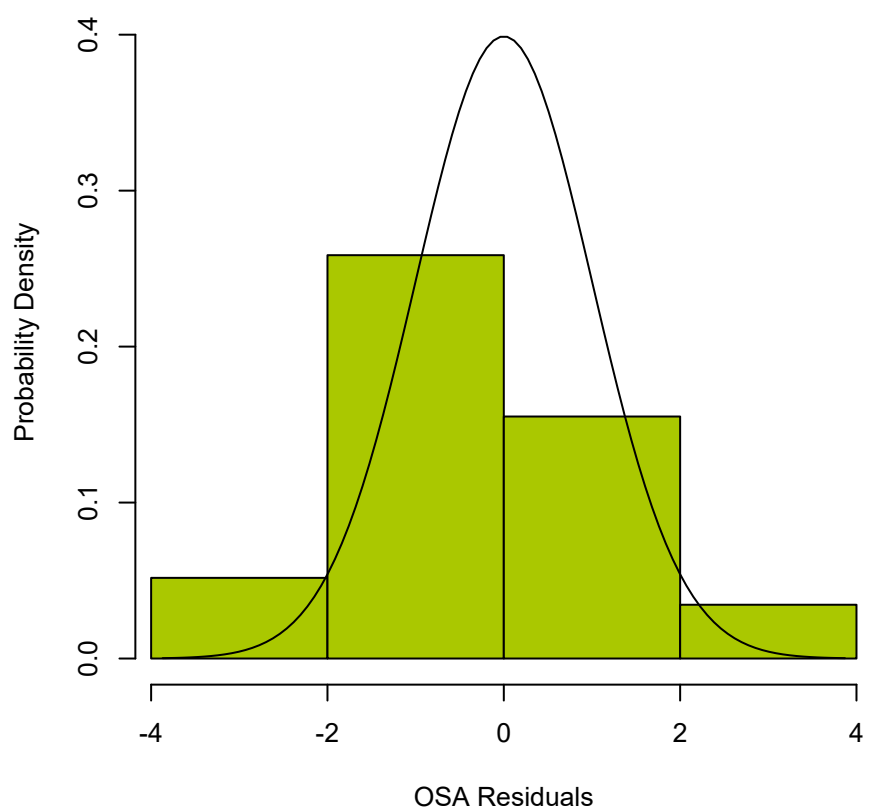
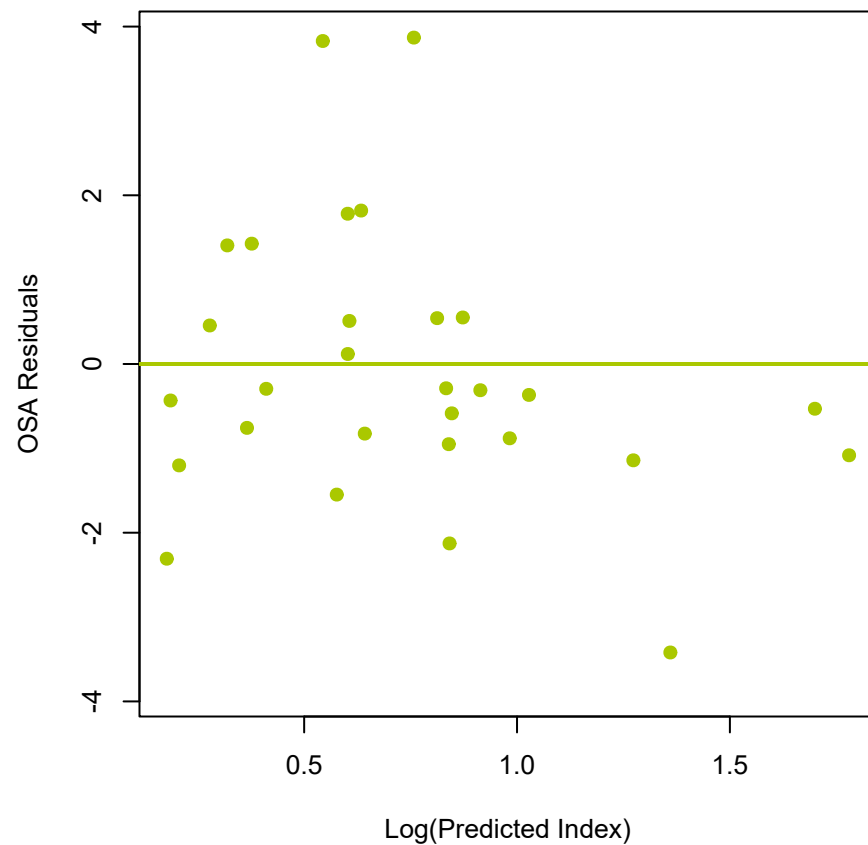
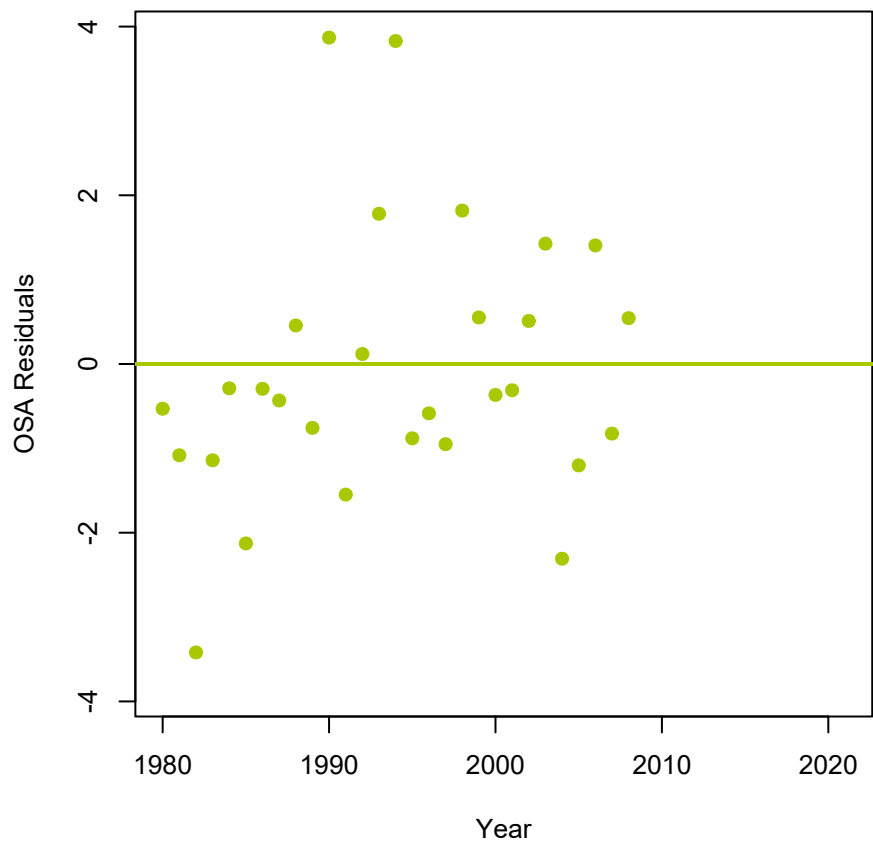
# OSA residual diagnostics: Index 1



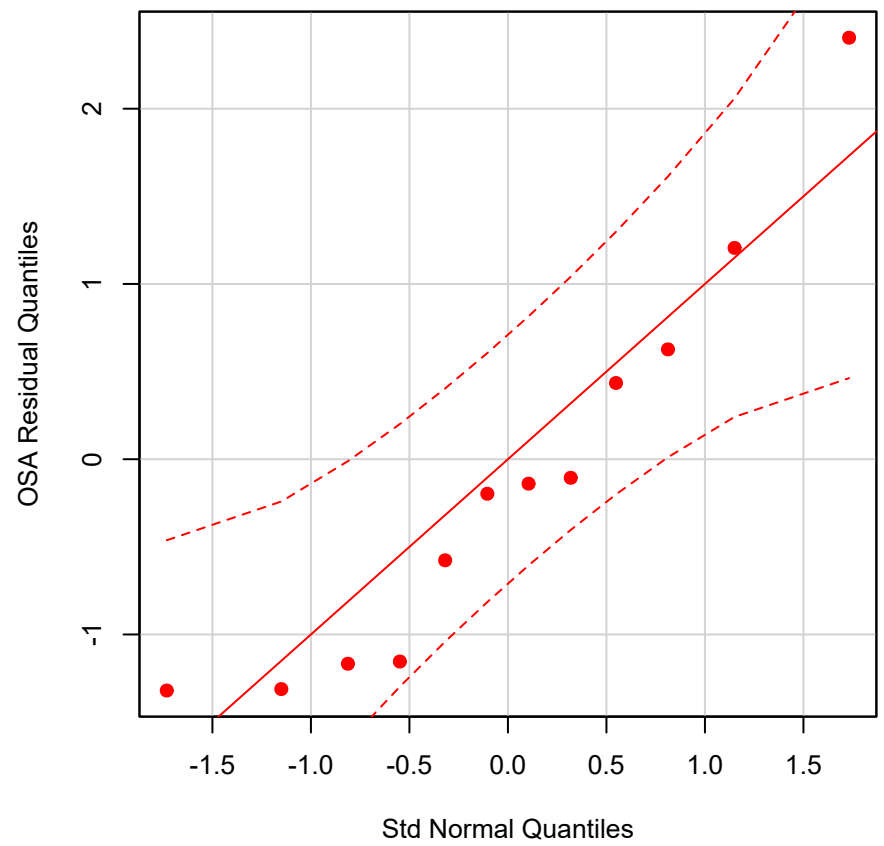
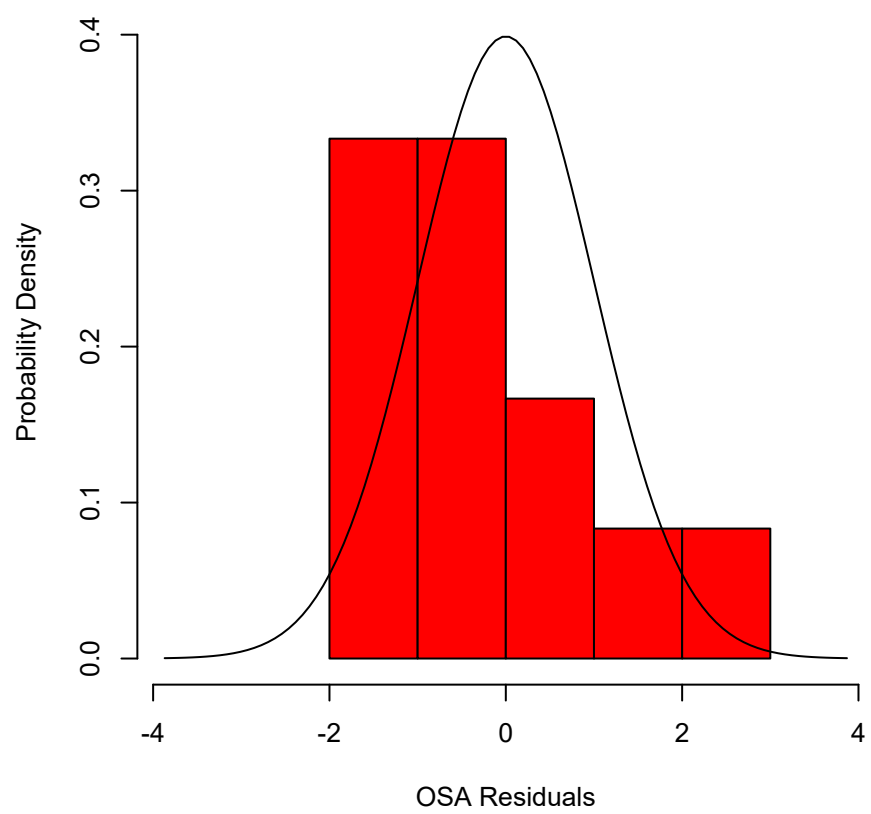
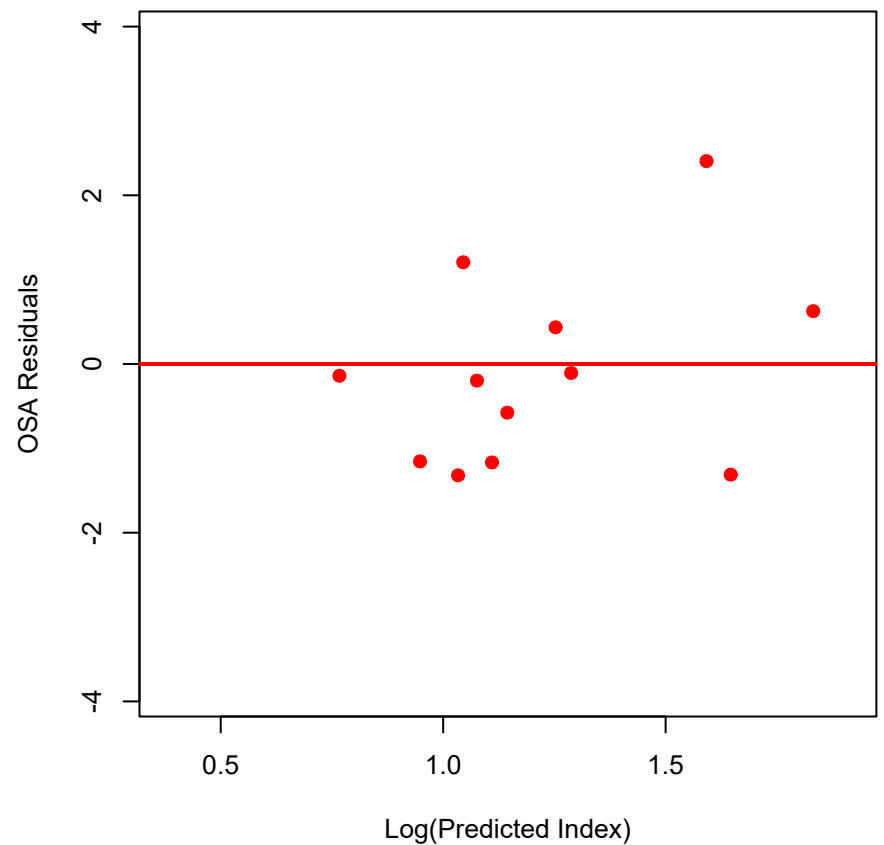
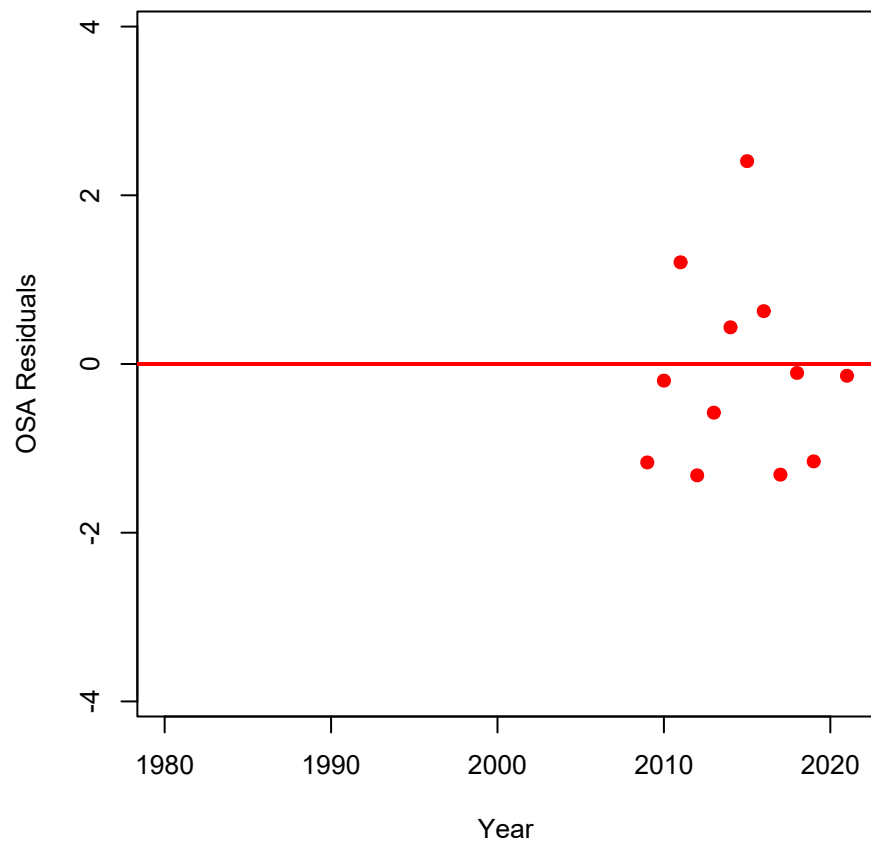
## OSA residual diagnostics: Index 2



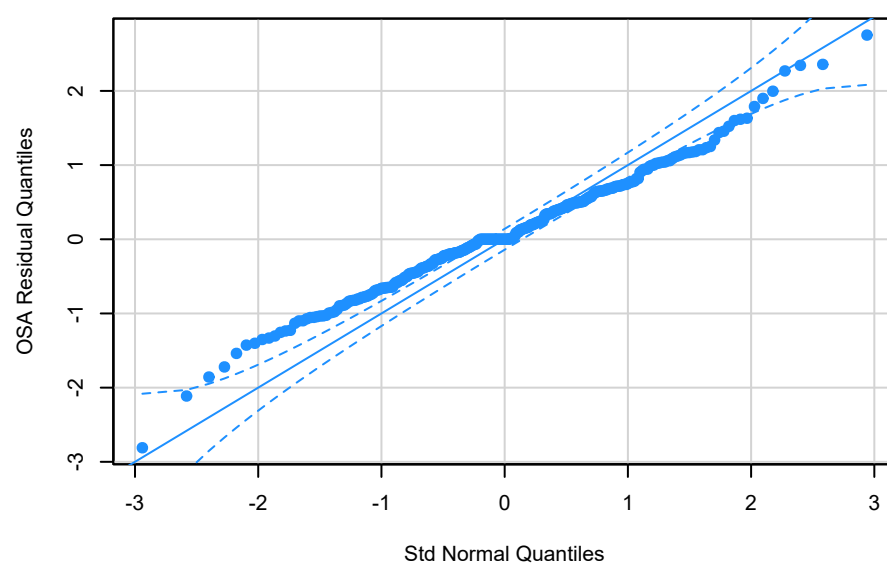
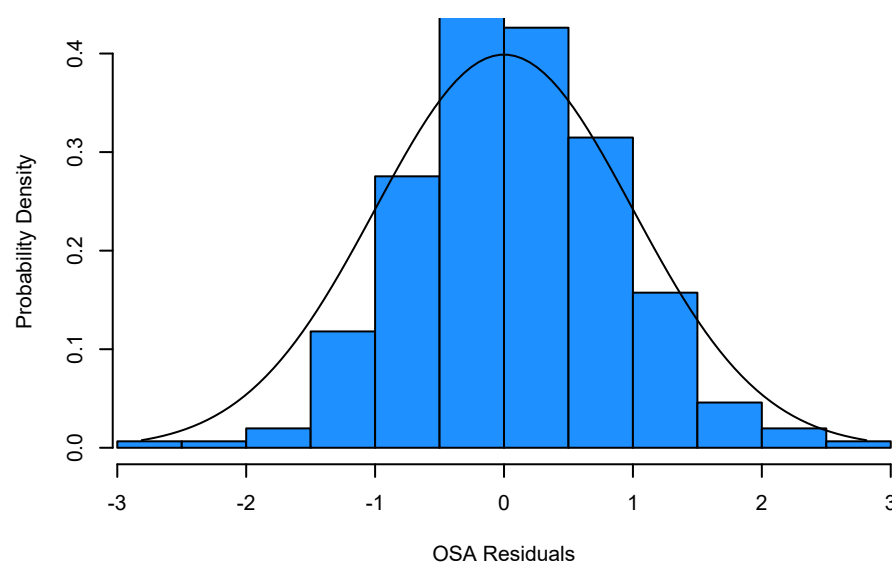
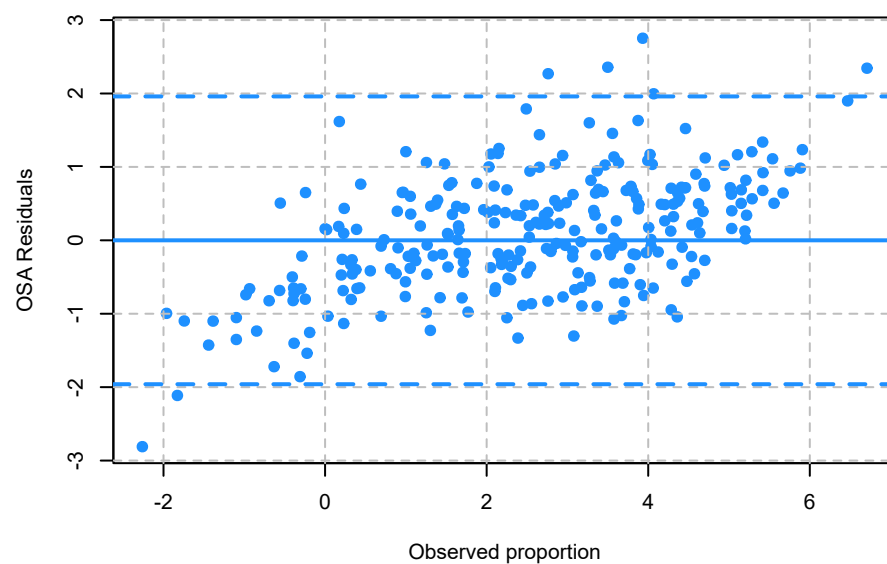
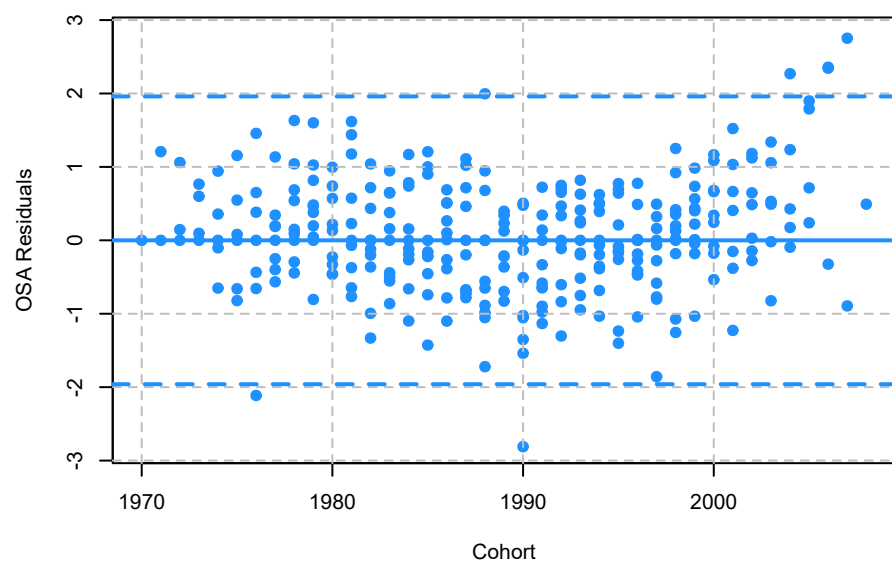
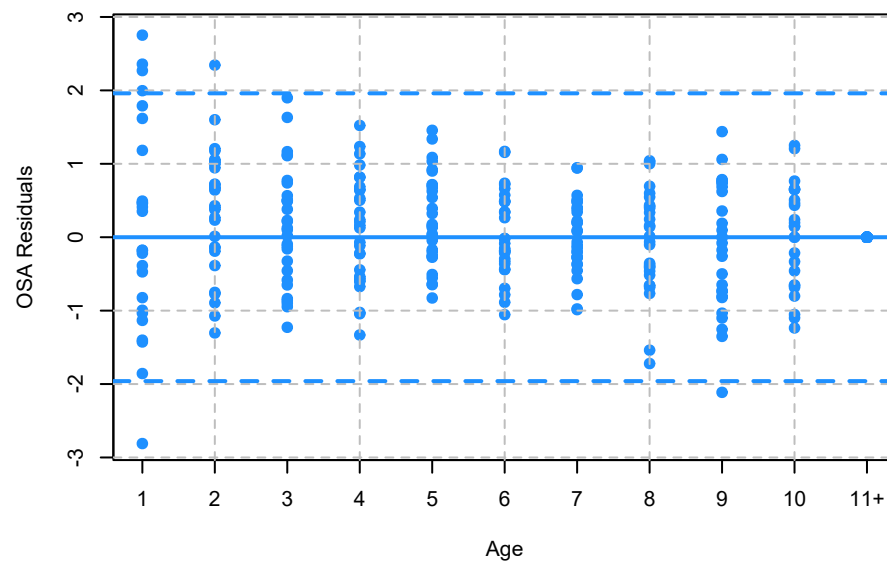
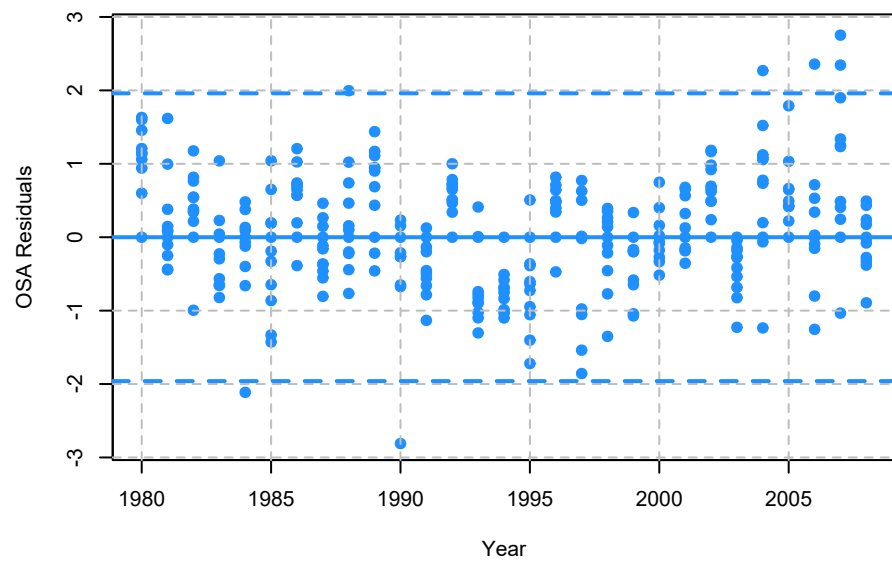
### OSA residual diagnostics: Index 3



# OSA residual diagnostics: Index 4

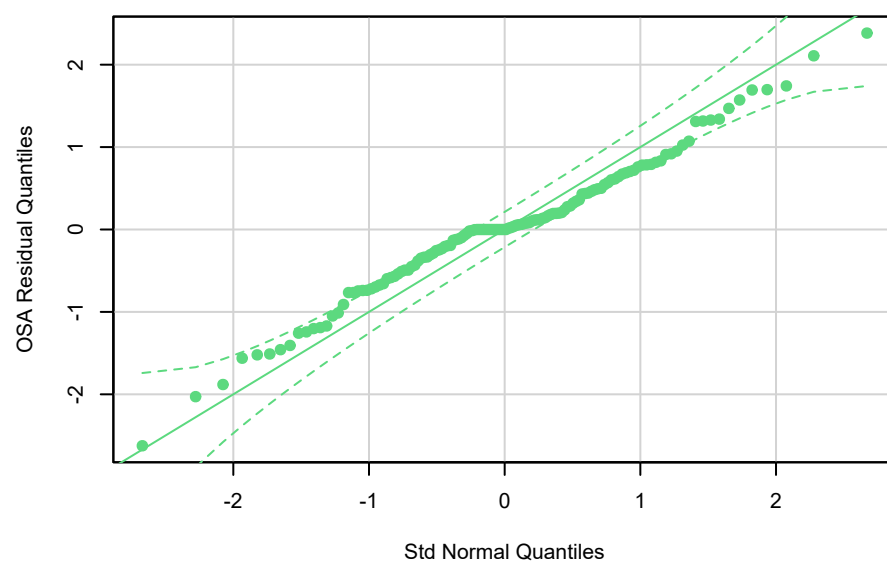
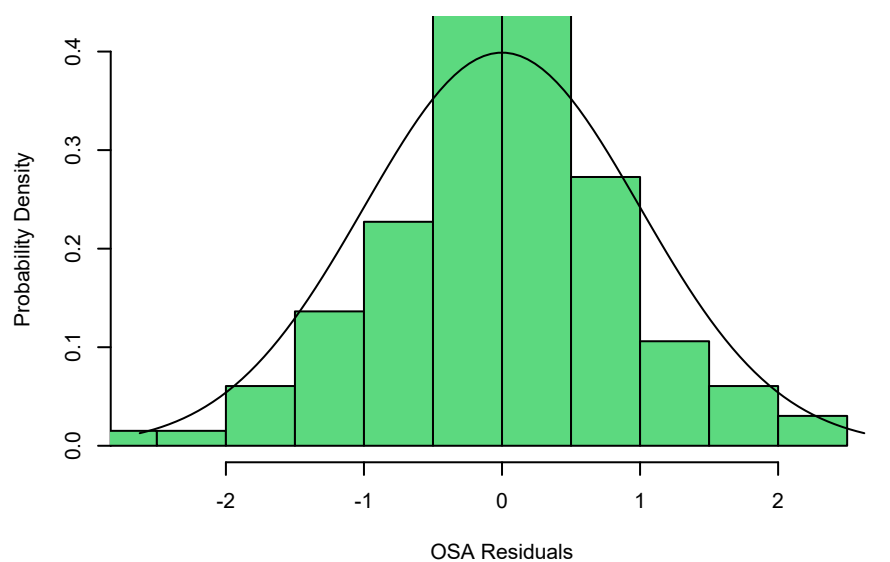
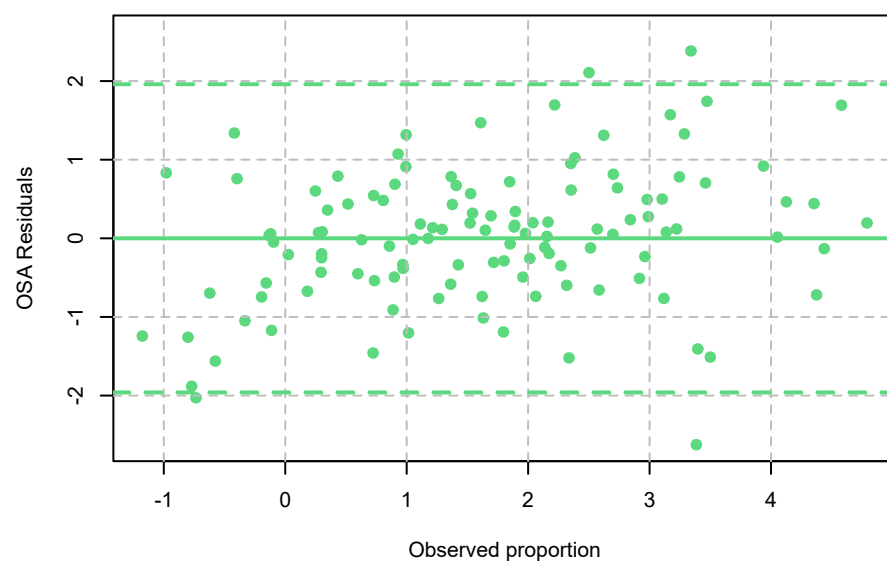
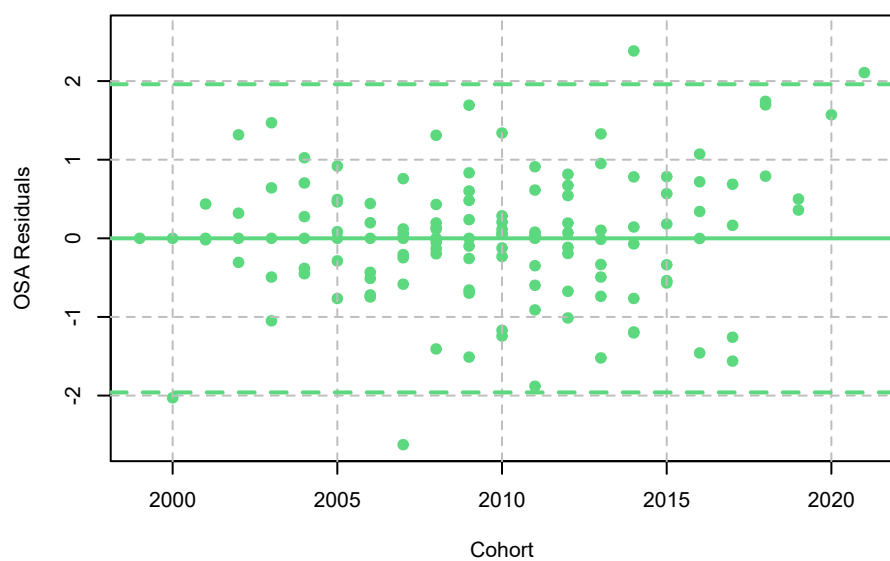
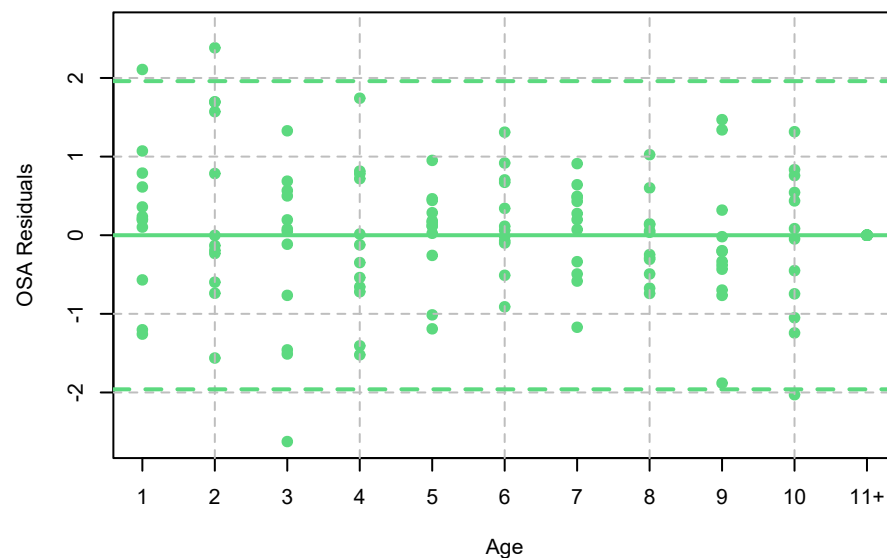


# age composition OSA residual diagnostics: Index 1

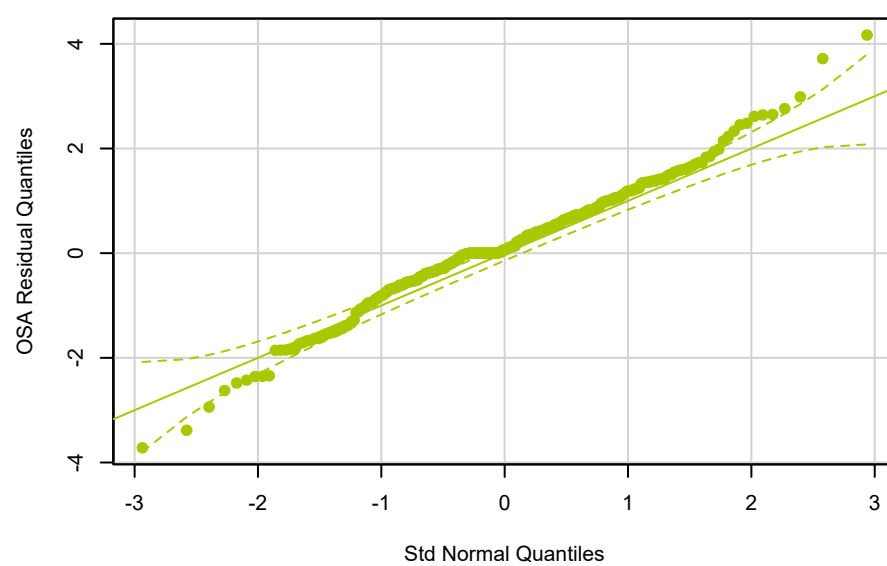
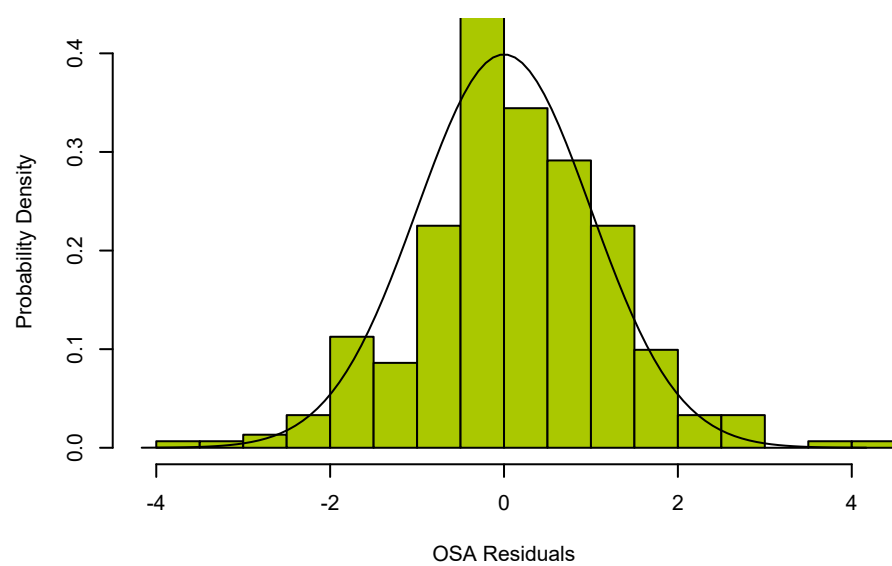
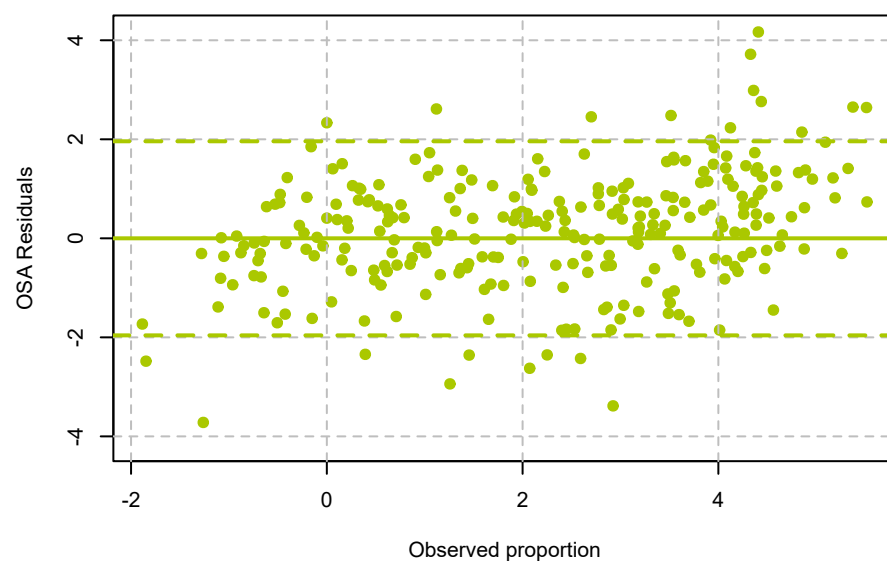
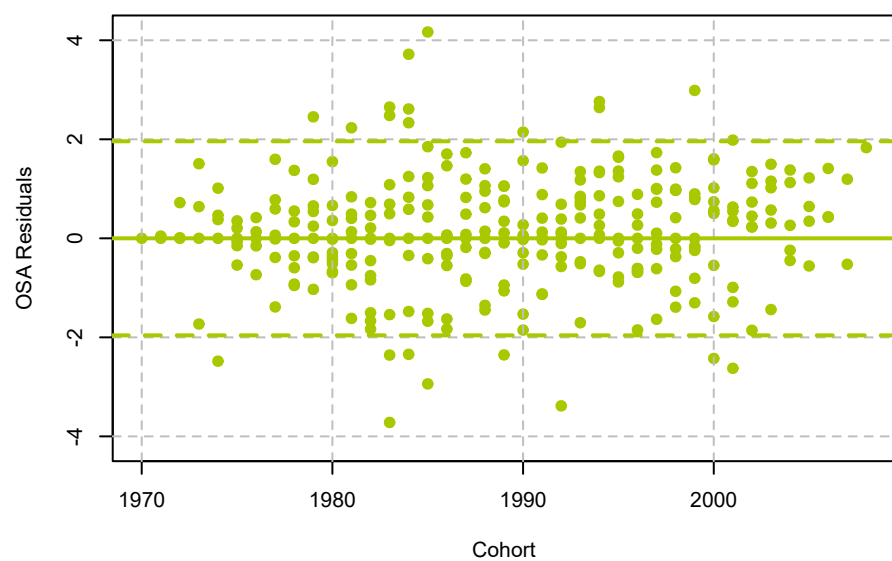
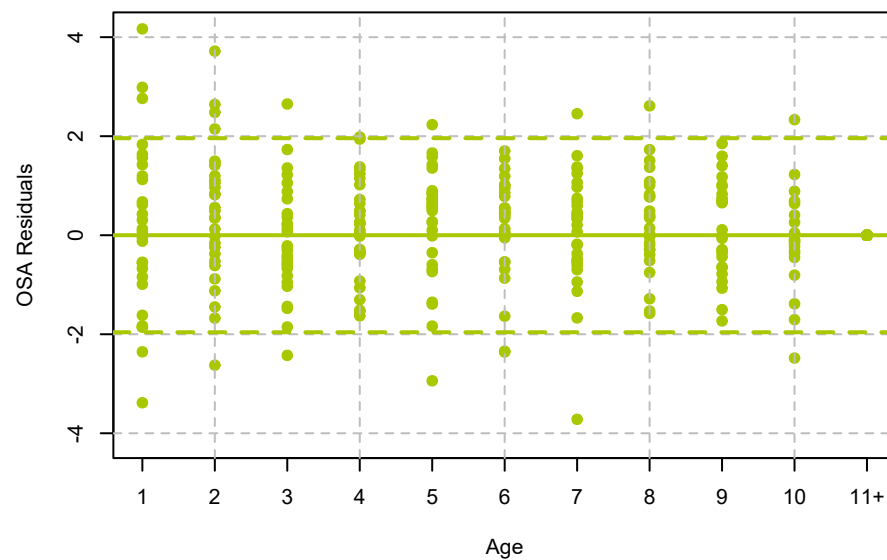
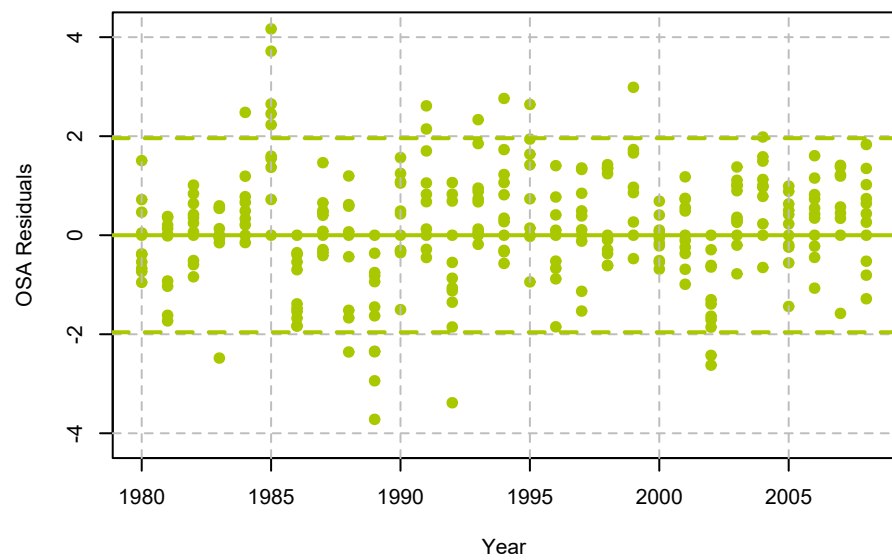




# age composition OSA residual diagnostics: Index 2



# age composition OSA residual diagnostics: Index 3



# age composition OSA residual diagnostics: Index 4

