

WHAM for unnamed stock

Model years: 1989-2021

Projection years: none

Number of stocks: 2

Number of regions: 2

Number of fleets: 4

Models: Dirichlet-multinomial, Logistic normal (miss0), Logistic normal AR1 corr (miss0), Logistic normal AR1 corr (mis

Number of indices: 4

Models: Logistic normal (miss0), Dirichlet-multinomial, Logistic normal AR1 corr (miss0), Logistic normal AR1 corr (mis

Recruitment model for each stock: Random about mean

Environmental covariate North\_BT modeled as AR1.

Effects on recruitment for stock 1 assumed.

Environmental covariate South\_BT modeled as AR1.

Number of Selectivity blocks: 12

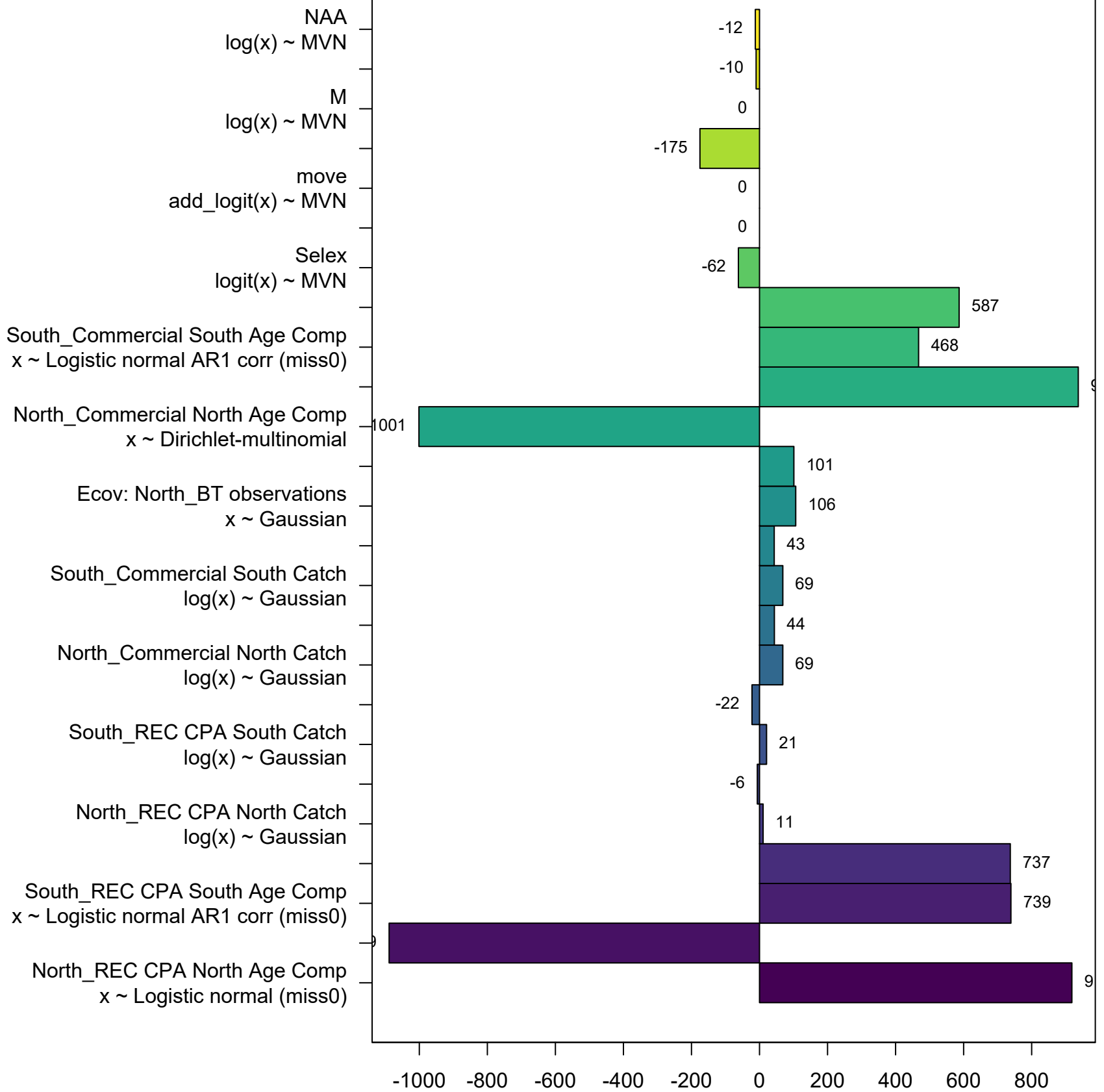
Age-specific, Logistic(+), Logistic(+), Age-specific, Age-specific, Age-specific, Age-specific, Age-specific, Age-specific, /

Fleet 1 Selectivity Blocks: 1

Fleet 2 Selectivity Blocks: 2

Fleet 3 Selectivity Blocks: 3

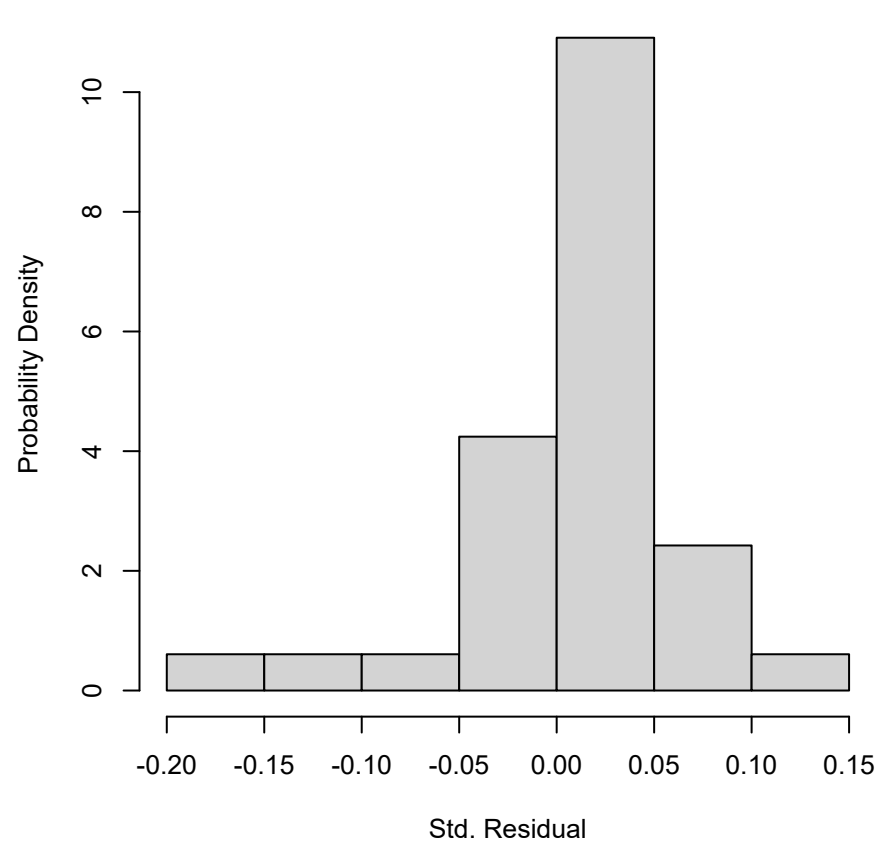
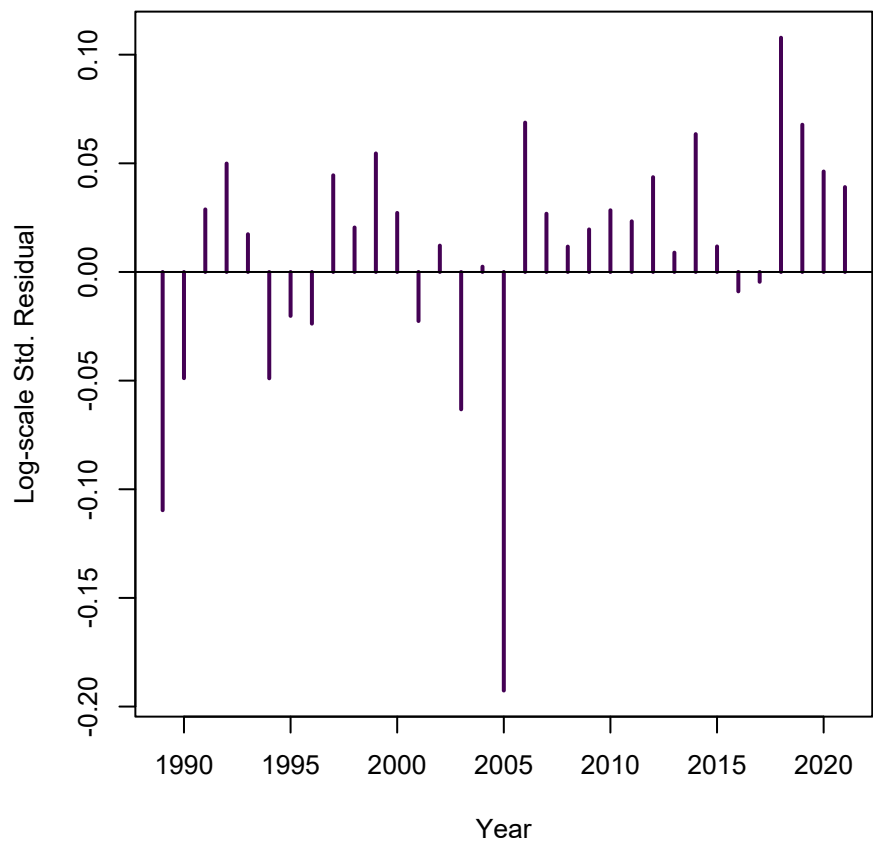
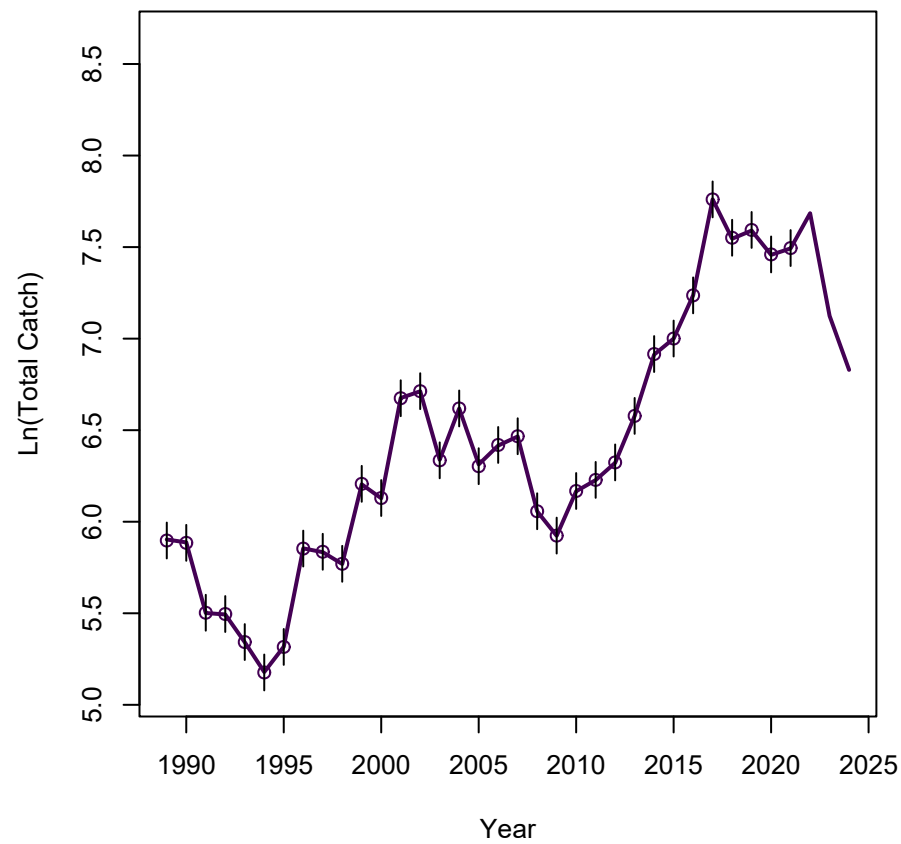
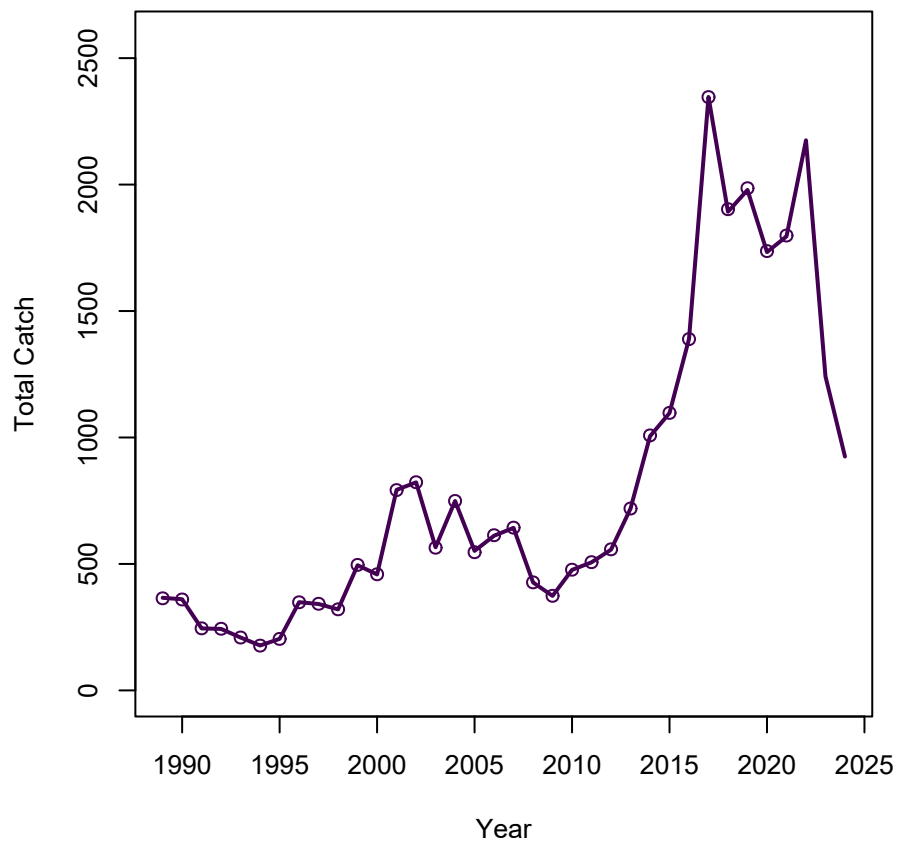
Fleet 4 Selectivity Blocks: 4



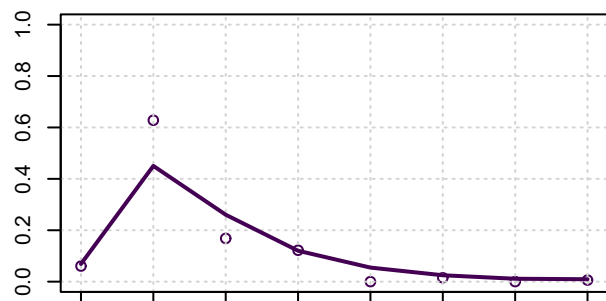
Joint log-likelihood components

Model: WHAM for unnamed stock 2023-10-13 23:35:58

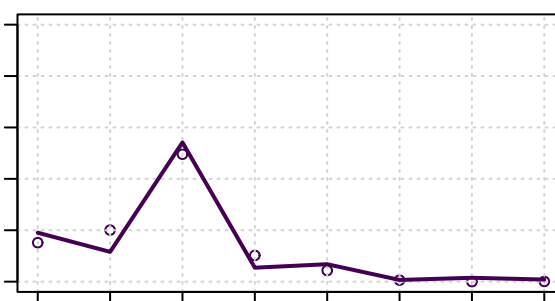
# North\_Commercial in North



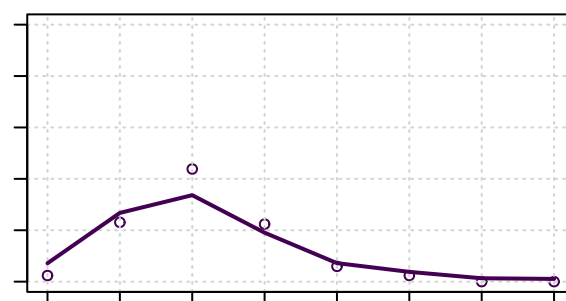
**Year = 1989**



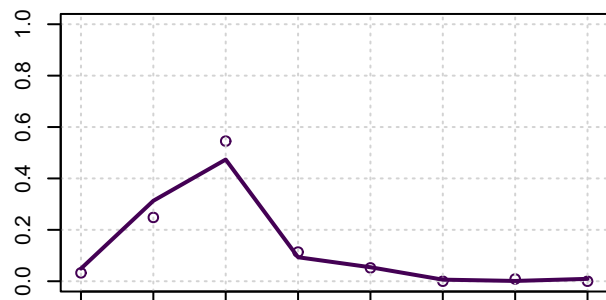
**North\_Commercial in North  
Year = 1994**



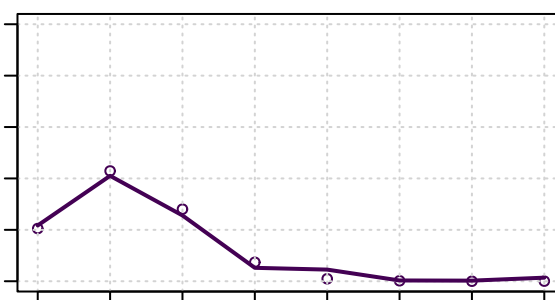
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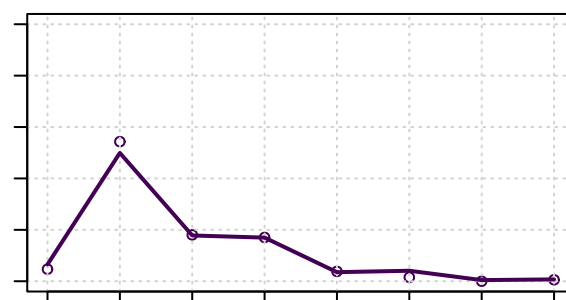
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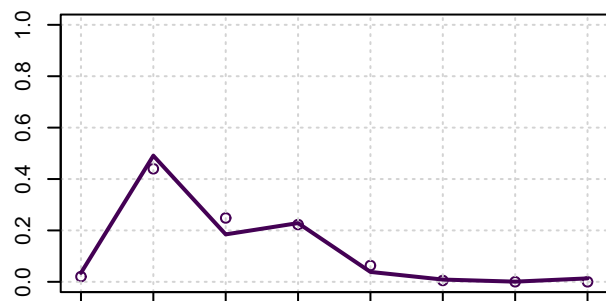
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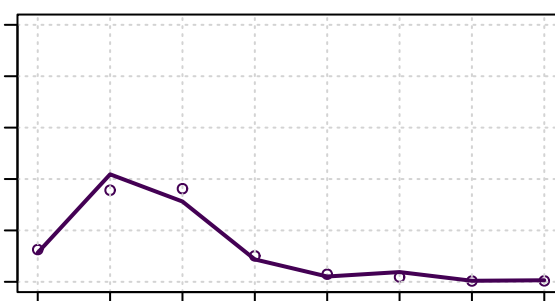
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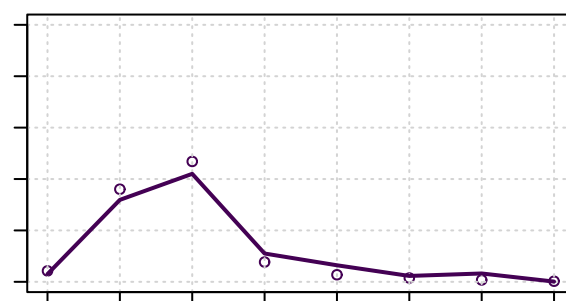
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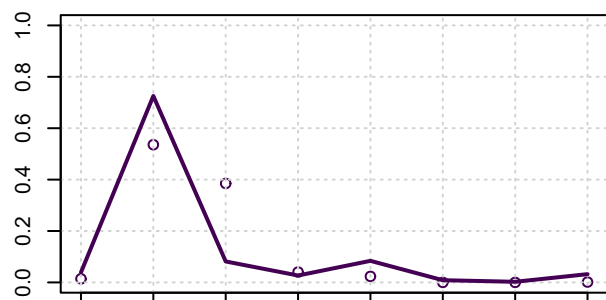
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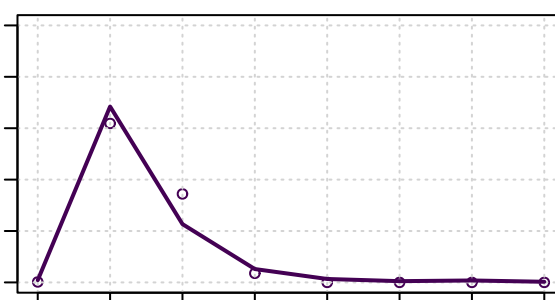
**Year = 2001**



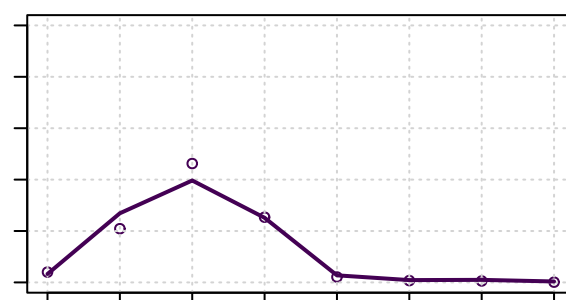
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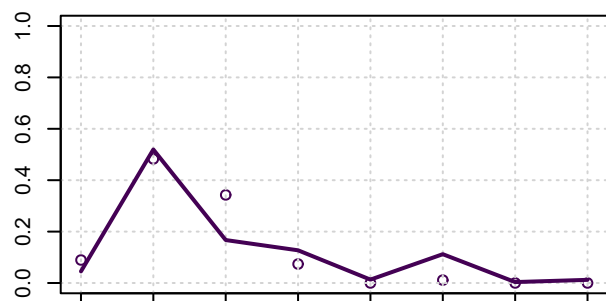
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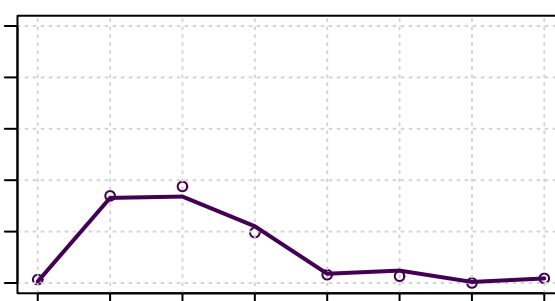
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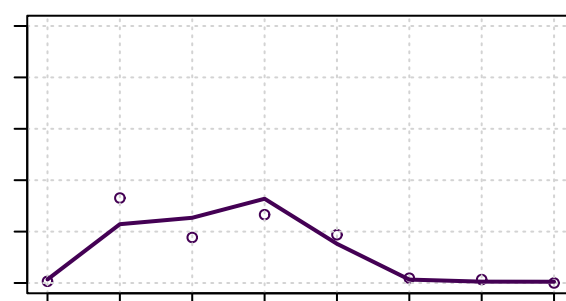
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**Year = 1998**

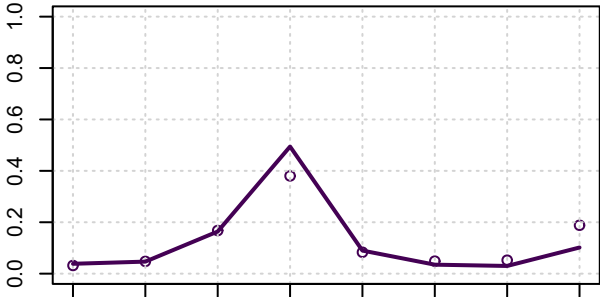


**Year = 2003**

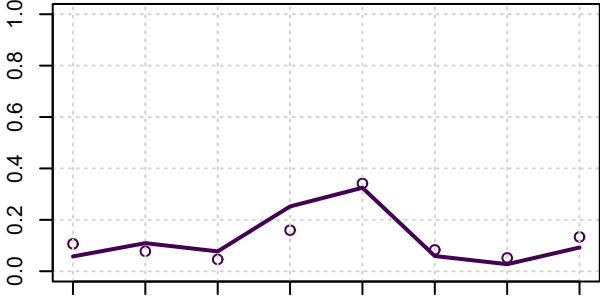




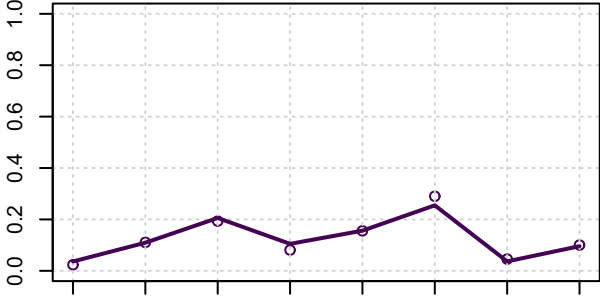
Year = 2019



Year = 2020



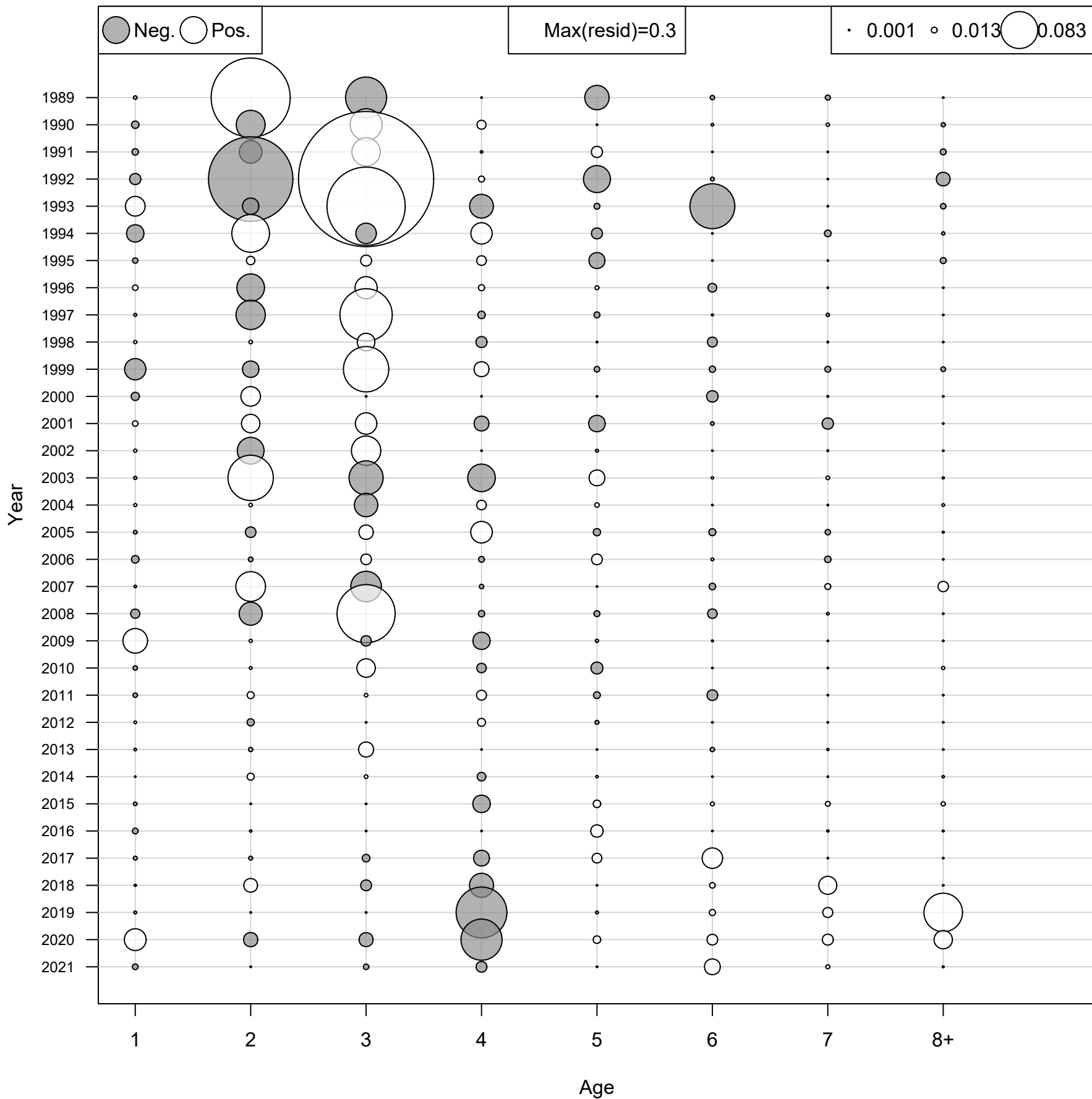
Year = 2021



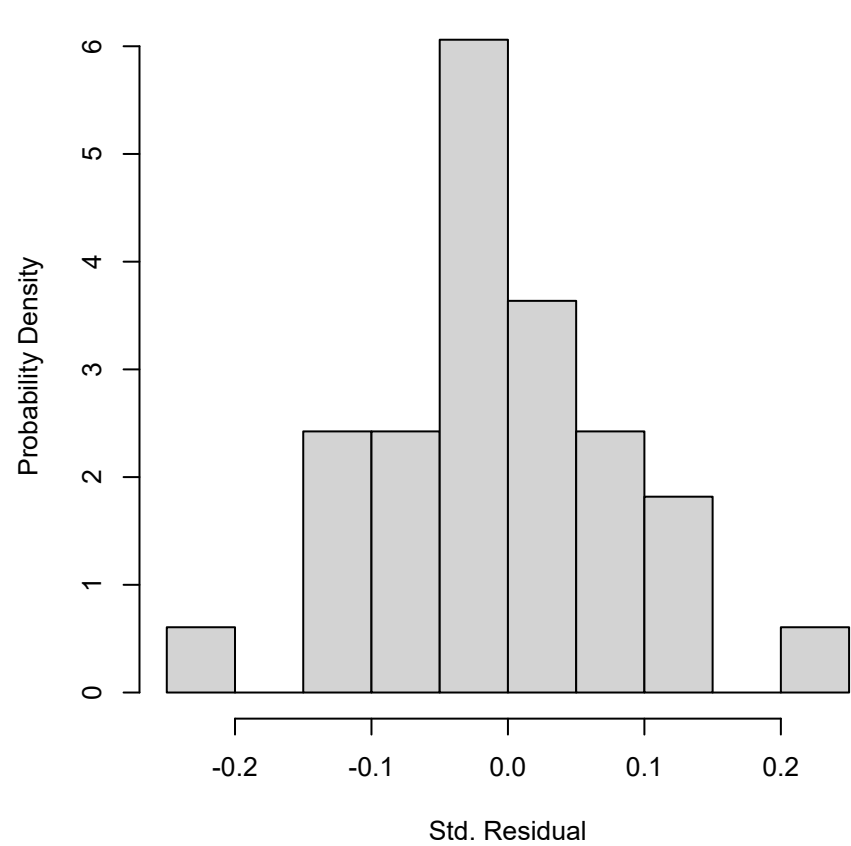
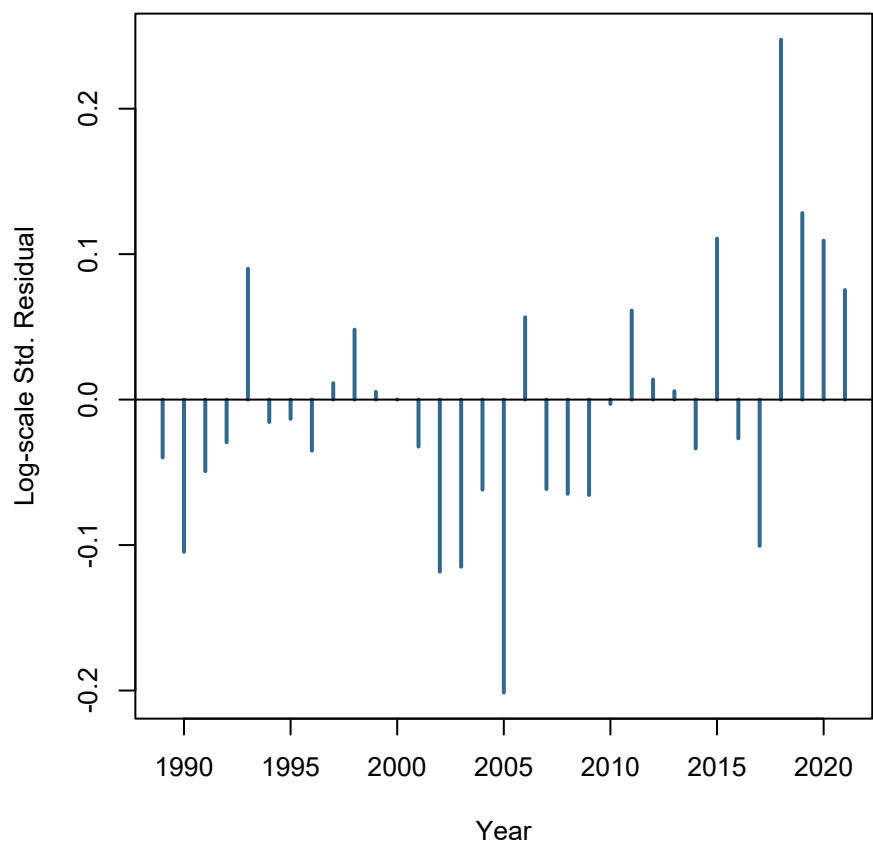
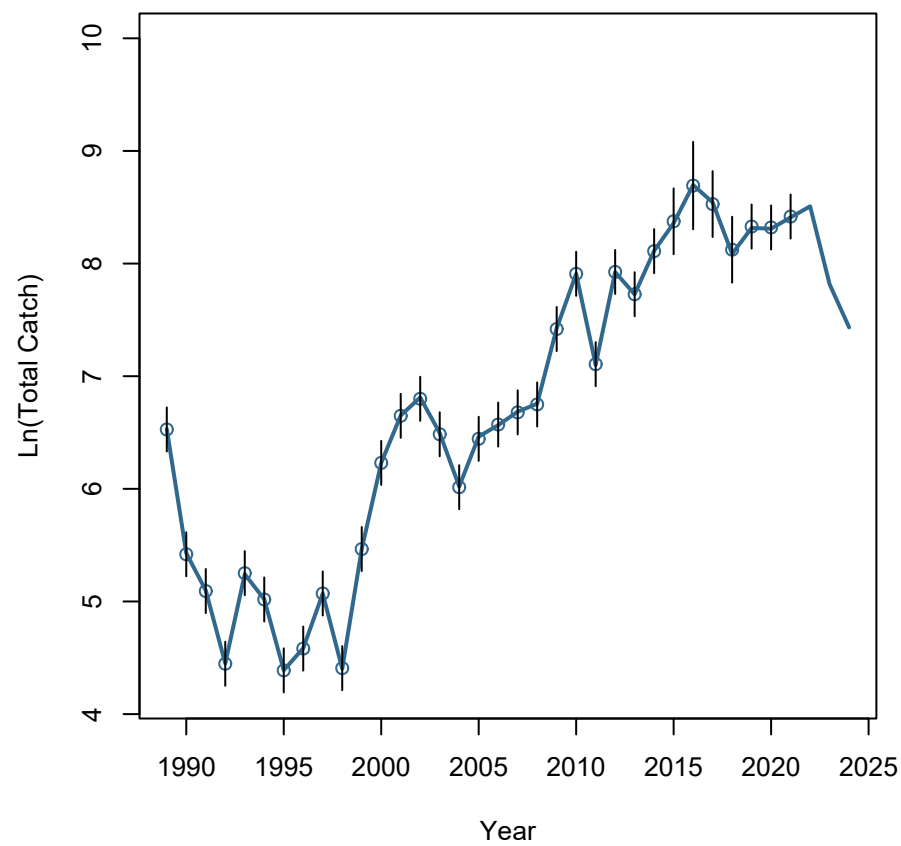
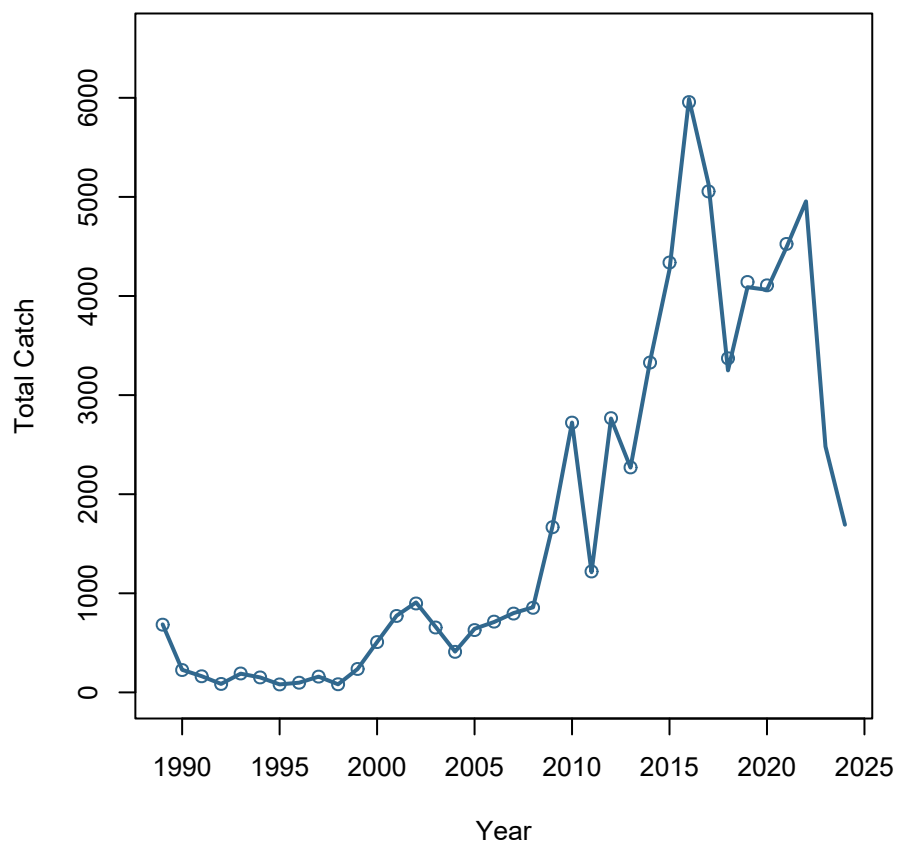
Proportion

Age

### Age Comp Residuals (Observed-Predicted) for North\_Commercial

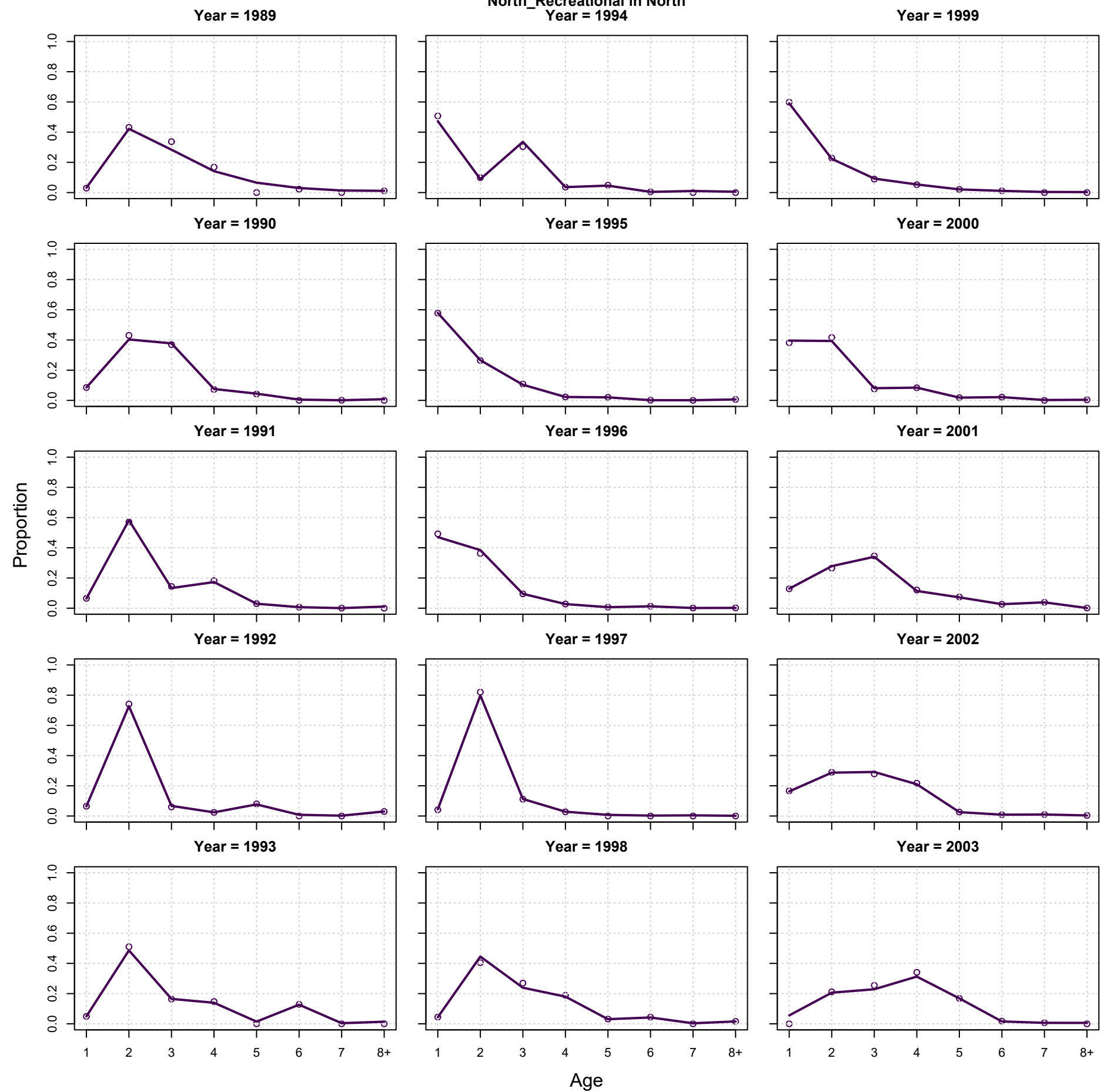


North\_Recreational in North





# North\_Recreational in North



Time	Average number of nodes
0	0.05
10	0.15
20	0.45
30	0.1
40	0.2
50	0.05
60	0.01
70	0.01
80	0.01
90	0.01
100	0.01

Year	Population (millions)
1990	4.5
1995	5.0
2000	5.5
2005	5.4
2010	4.5

Year	Population (millions)
1990	4.5
1995	5.0
2000	6.5
2005	5.5
2010	5.2

Iteration	Average number of nodes per cluster
1	0.08
2	0.22
3	0.13
4	0.26
5	0.13
6	0.11
7	0.03
8	0.01

Year	Population (millions)
1990	4.5
1995	5.5
2000	5.2
2005	4.8
2010	4.5

Year	Population (millions)
1970	4.5
1975	5.0
1980	5.2
1985	6.5
1990	5.5
1995	5.2
2000	5.1
2005	5.1
2010	5.1

Age Group	Proportion of Correct Answers
1	0.18
2	0.23
3	0.11
4	0.22
5	0.03
6	0.05
7	0.00
8	0.00
9	0.00
10	0.00

Year	Population (millions)
1990	4.5
1995	4.8
2000	5.5
2005	4.8
2010	4.5

The line graph displays the daily death toll from COVID-19 in the United States. The x-axis represents time from March 2020 to March 2021, with major ticks every two months. The y-axis represents the number of deaths, with major ticks at 0, 10,000, 20,000, 30,000, 40,000, 50,000, and 60,000. The data shows a sharp increase in deaths starting in March 2020, peaking at approximately 55,000 deaths in early April 2020. Following this peak, the death toll declined significantly, reaching a low point of about 5,000 deaths in June 2020. The toll then rose again, peaking at approximately 25,000 deaths in early January 2021. After this second peak, the death toll declined once more, reaching a low point of about 5,000 deaths in March 2021.

Date	Deaths
March 1, 2020	~10,000
April 1, 2020	~55,000
May 1, 2020	~15,000
June 1, 2020	~5,000
July 1, 2020	~10,000
August 1, 2020	~25,000
September 1, 2020	~15,000
October 1, 2020	~10,000
November 1, 2020	~10,000
December 1, 2020	~10,000
January 1, 2021	~5,000
February 1, 2021	~5,000
March 1, 2021	~5,000

Year	Number of Publications
1990	0.15
1995	0.30
2000	0.25
2005	0.10
2010	0.05

Year	Number of people (millions)
1990	10.5
2000	11.5
2010	10.5

The line graph illustrates the growth of the U.S. workforce over a 20-year period. The x-axis represents years from 1990 to 2010 in 5-year increments. The y-axis represents the number of people in millions, ranging from 0 to 160 in increments of 20. The workforce starts at 100 million in 1990, rises to 120 million in 1995, dips to 110 million in 2000, and then shows a steady increase to 130 million by 2005. After a slight dip to 120 million in 2008, it recovers to 125 million by 2010.

Year	Number of People (Millions)
1990	100
1995	120
2000	110
2005	130
2008	120
2010	125

Time	Average number of nodes
0	0.15
20	0.30
40	0.25
60	0.15
80	0.05
100	0.02

Year	Population (millions)
1990	1.2
1995	1.8
2000	1.5
2005	1.6
2010	1.5

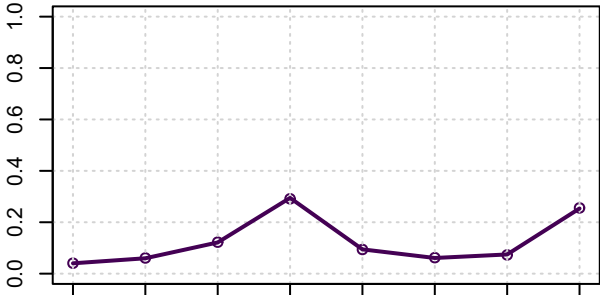
Year	Population (millions)
1990	4.5
1995	5.0
2000	5.5
2005	6.5
2010	5.5

1	2	3	4	5	6	7	8+	1	2	3	4	5	6	7	8+	1	2	3	4	5	6	7	8+
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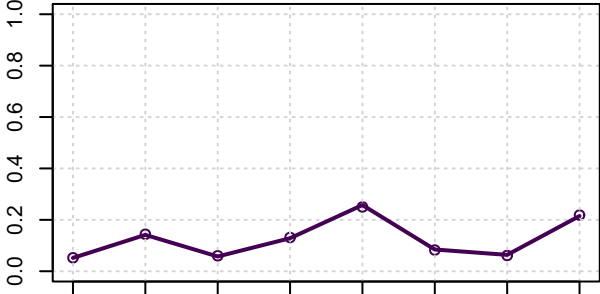
Age

North\_Recreational in North

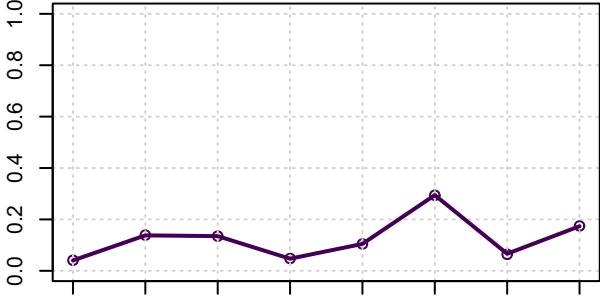
Year = 2019



Year = 2020

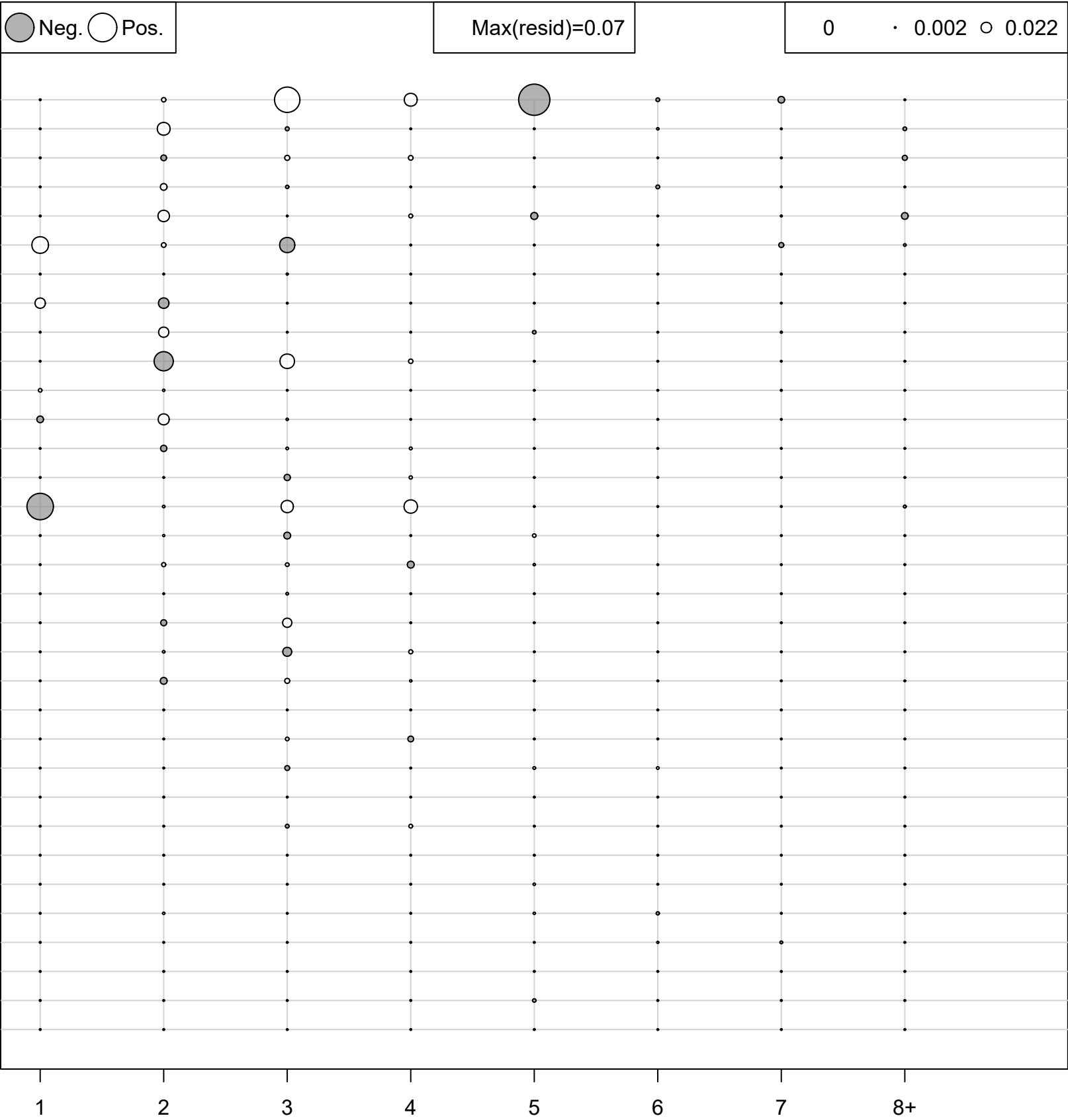


Year = 2021



Age

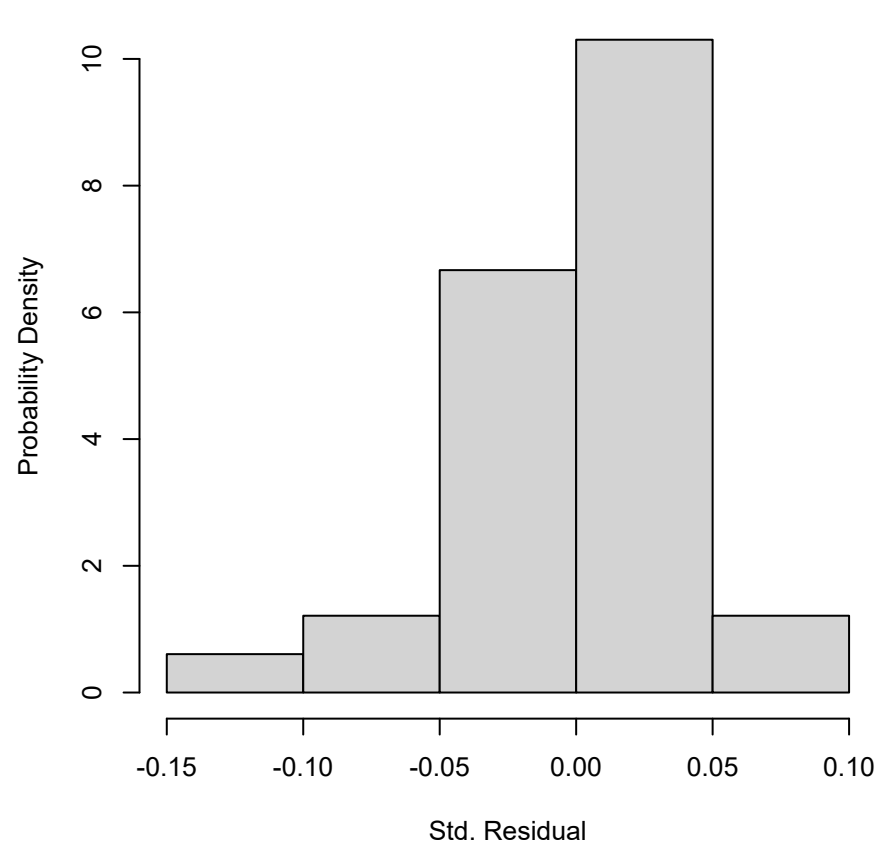
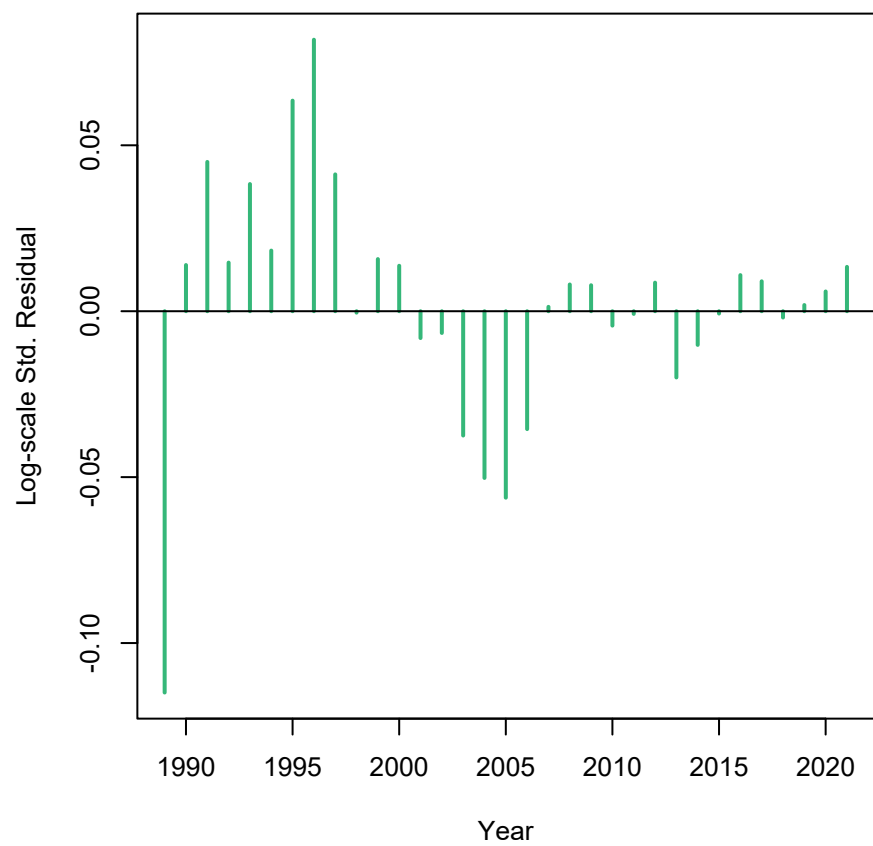
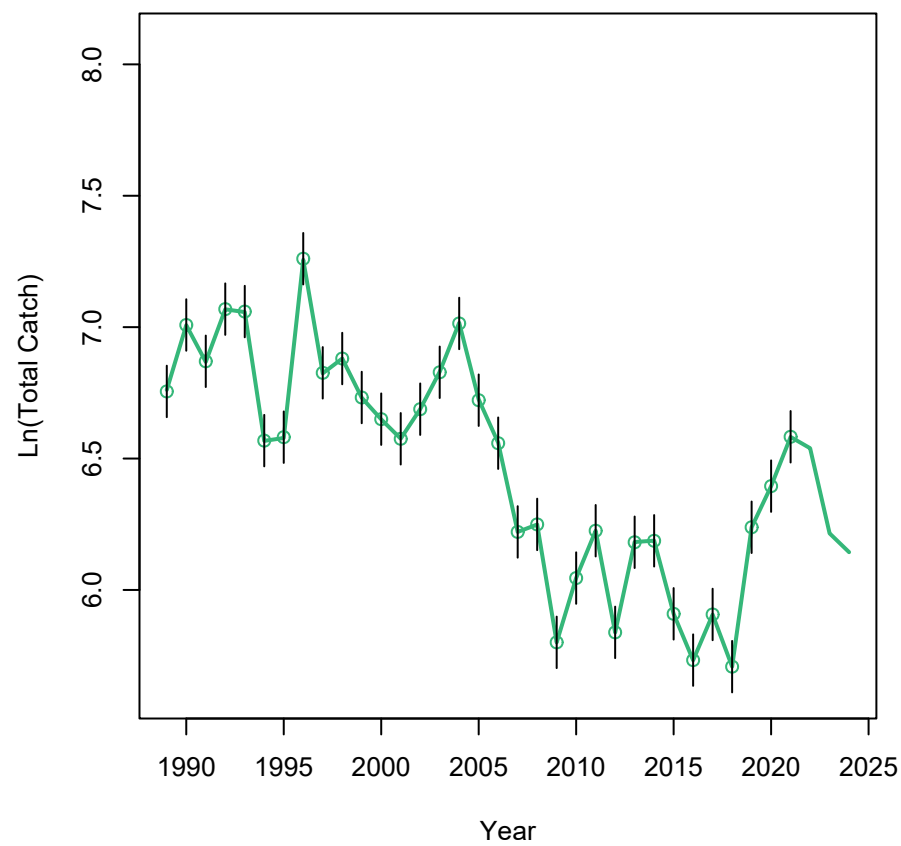
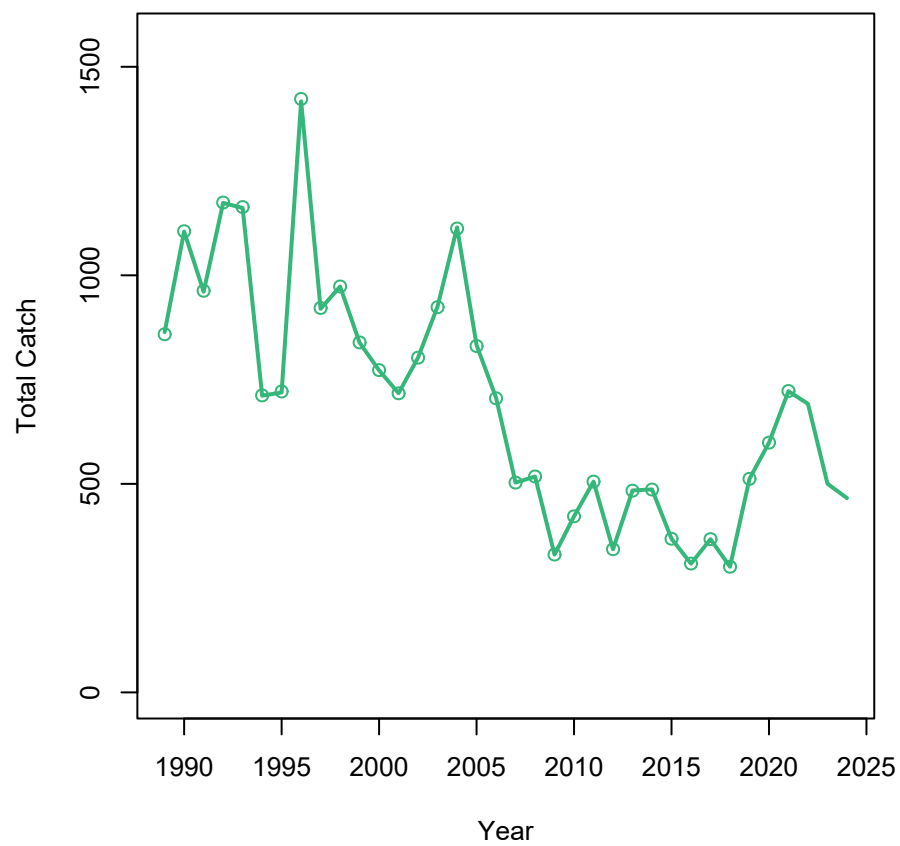
Age Comp Residuals (Observed-Predicted) for North\_Recreational



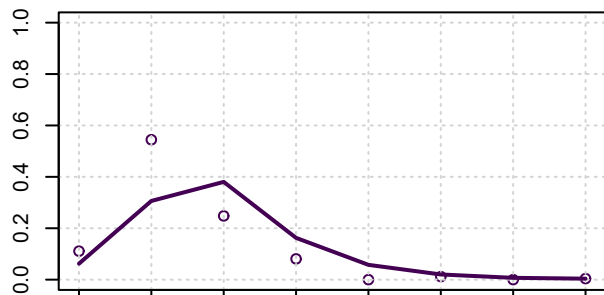
Year

Age

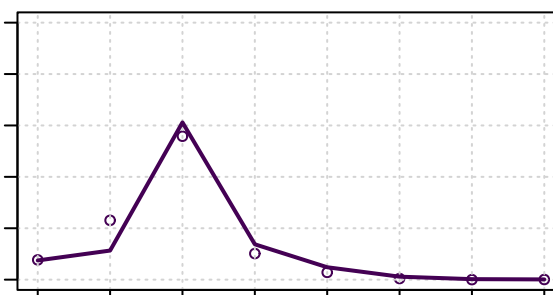
# South\_Commercial in South



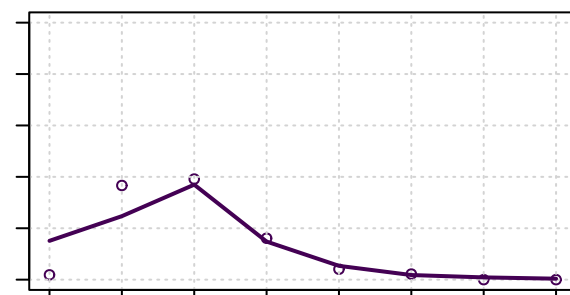
**Year = 1989**



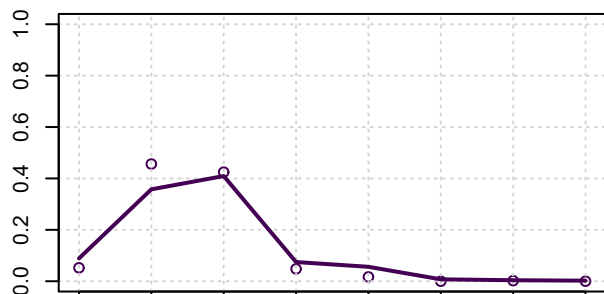
**South\_Commercial in South  
Year = 1994**



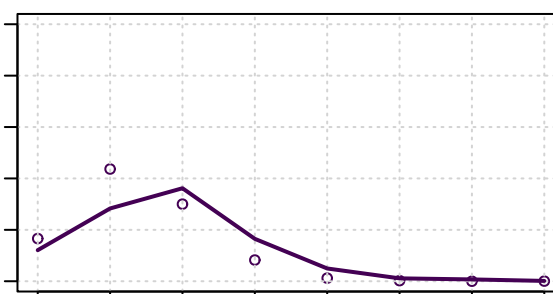
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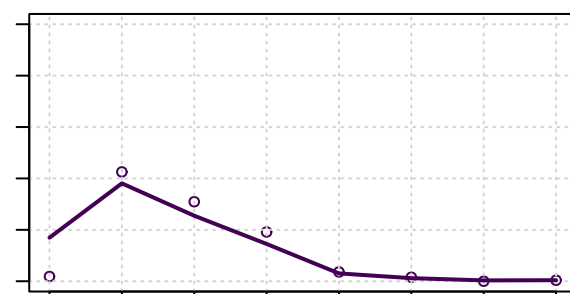
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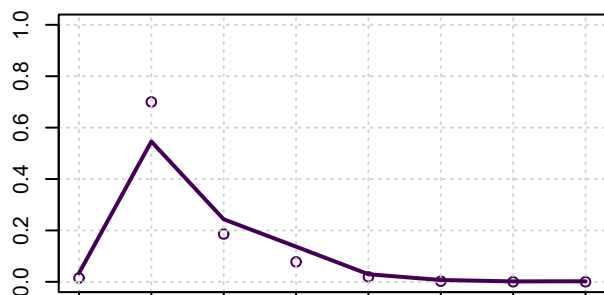
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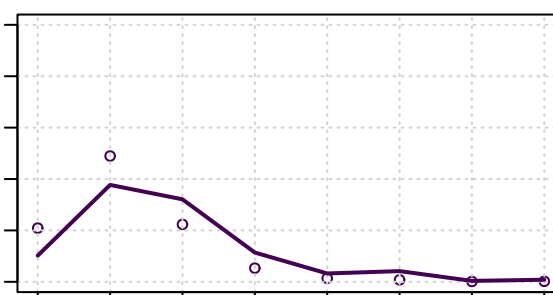
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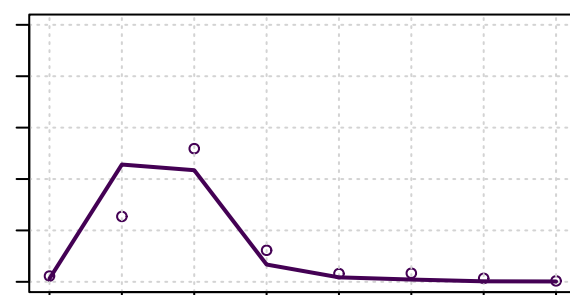
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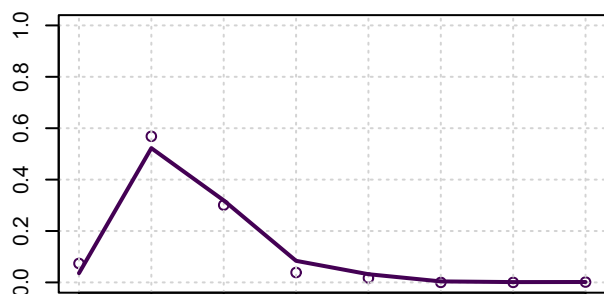
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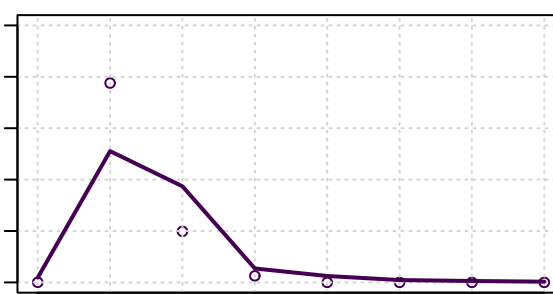
**Year = 2001**



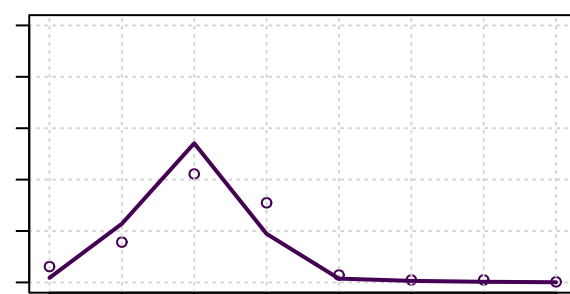
**Year = 1992**



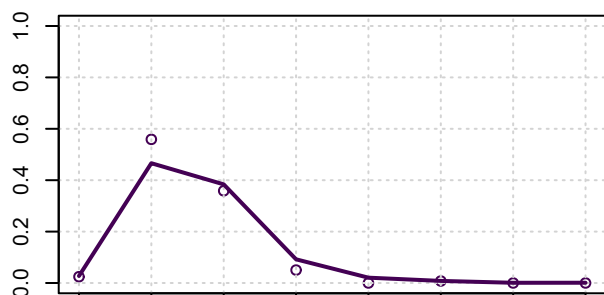
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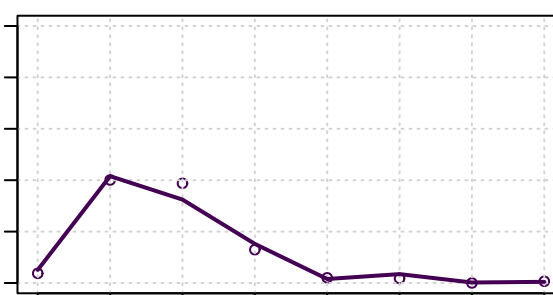
**Year = 2002**



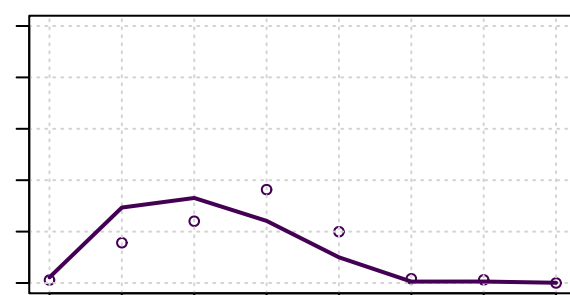
**Year = 1993**



**Year = 1998**



**Year = 2003**



Proportion

Age

South\_Commercial in South  
Year = 2009

Year = 2004

Year = 2014

Year = 2005

Year = 2010

Year = 2015

Year = 2006

Year = 2011

Year = 2016

Year = 2007

Year = 2012

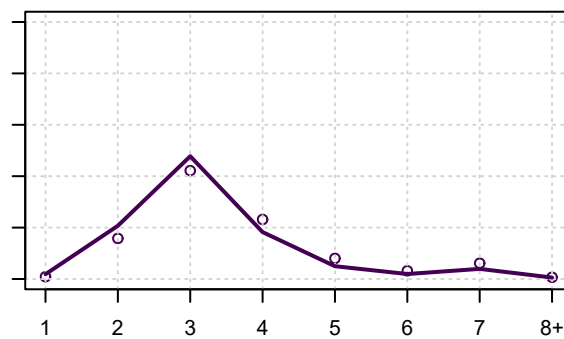
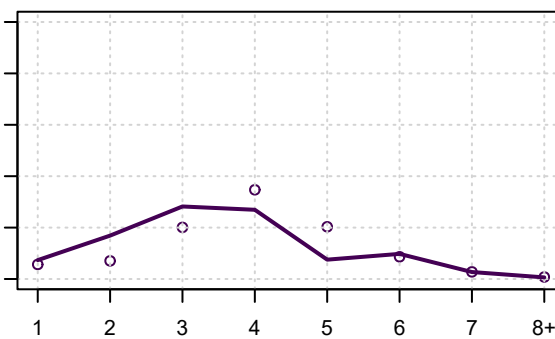
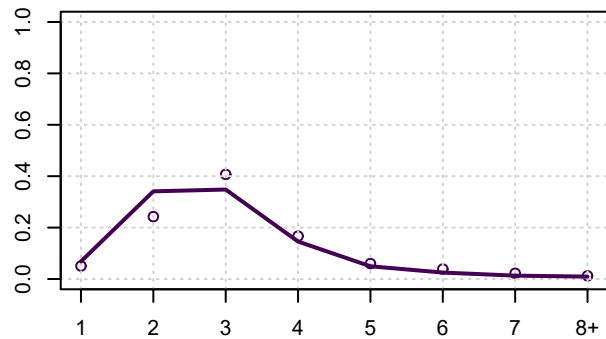
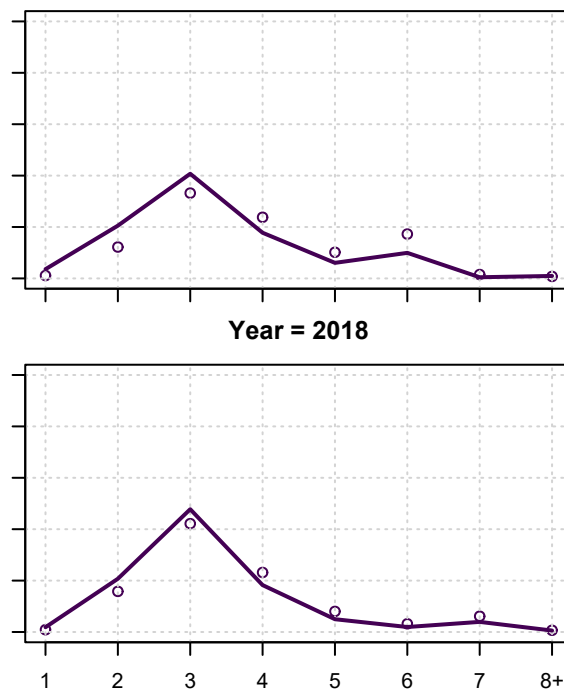
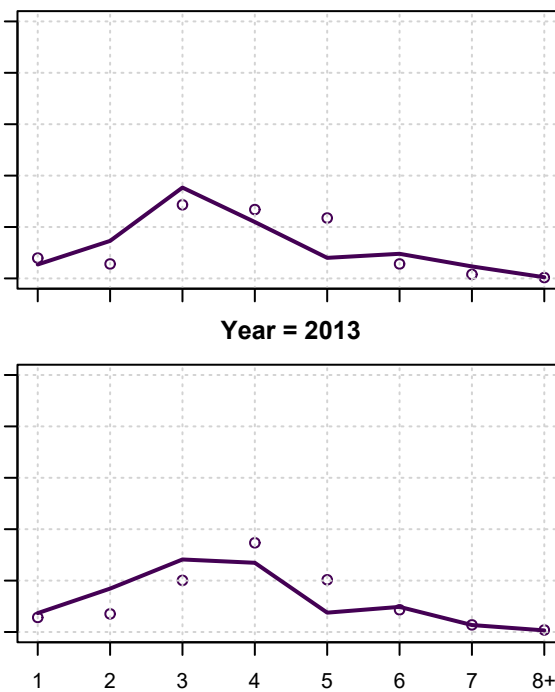
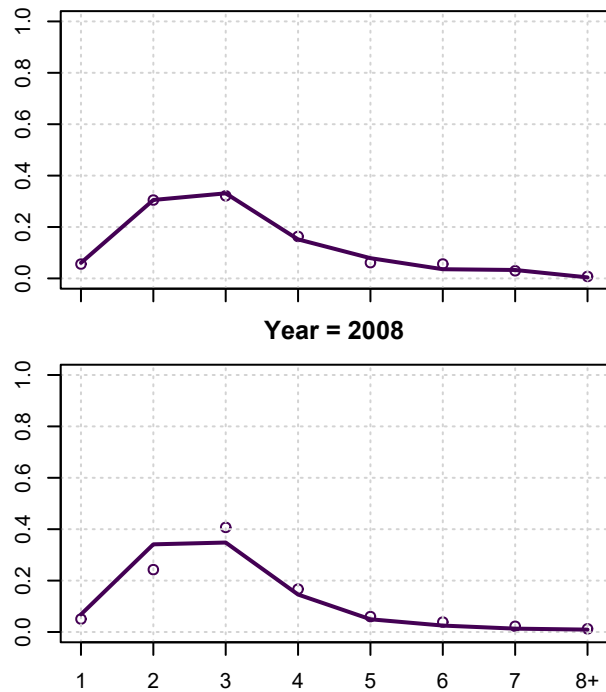
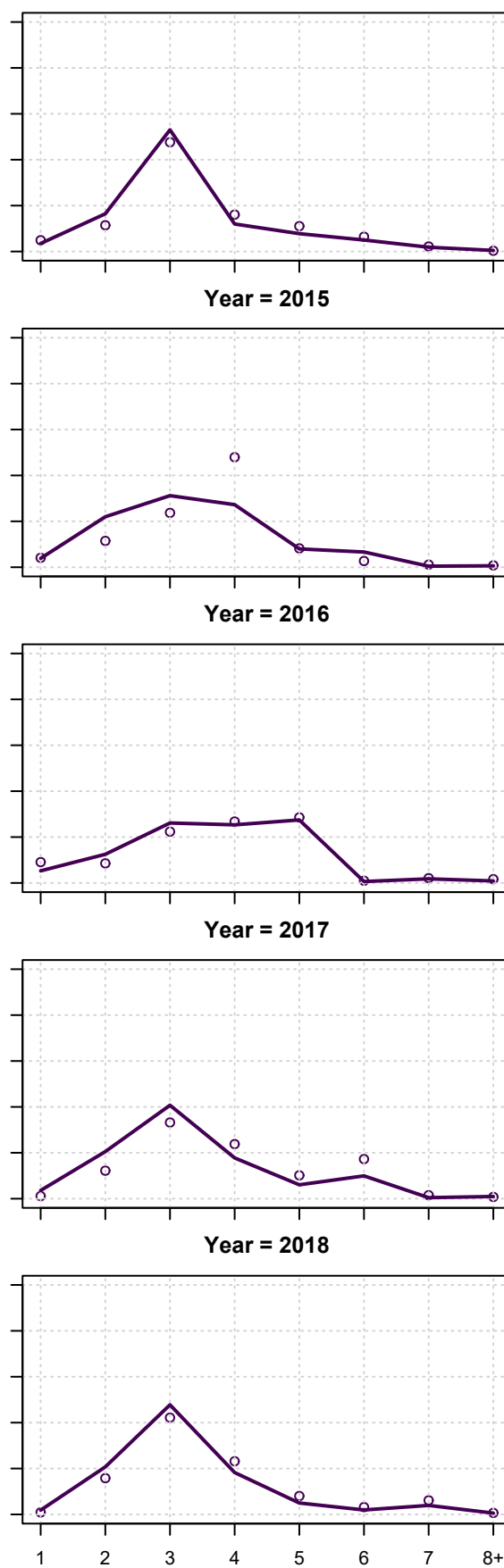
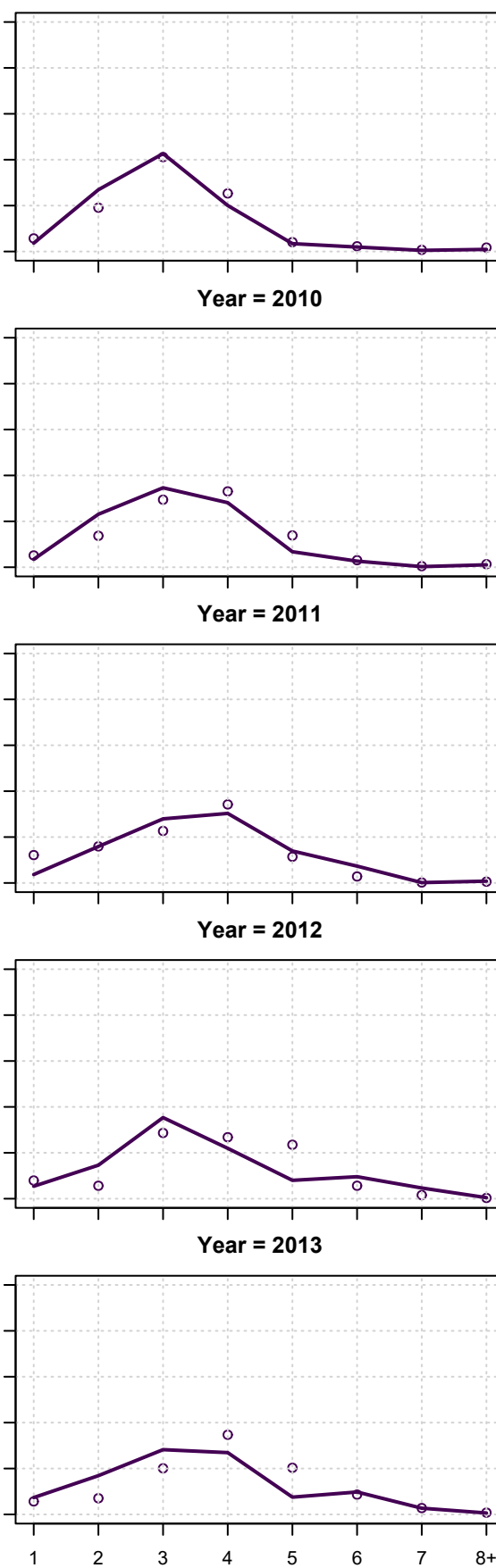
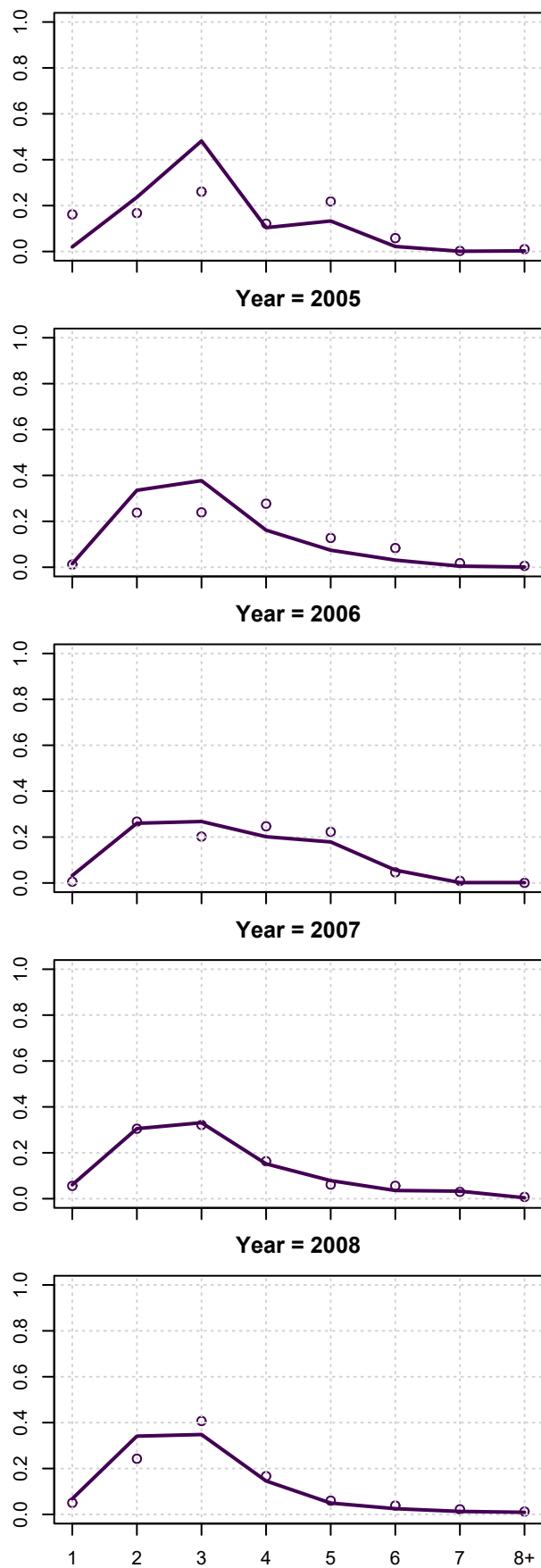
Year = 2017

Year = 2008

Year = 2013

Year = 2018

Proportion



1 2 3 4 5 6 7 8+

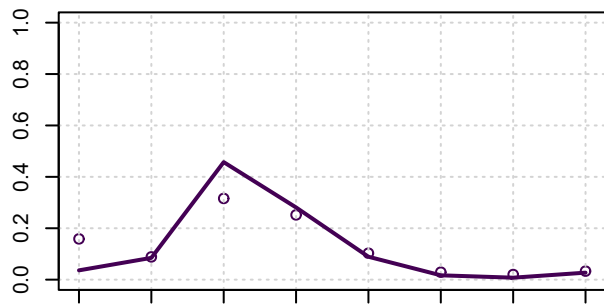
1 2 3 4 5 6 7 8+

1 2 3 4 5 6 7 8+

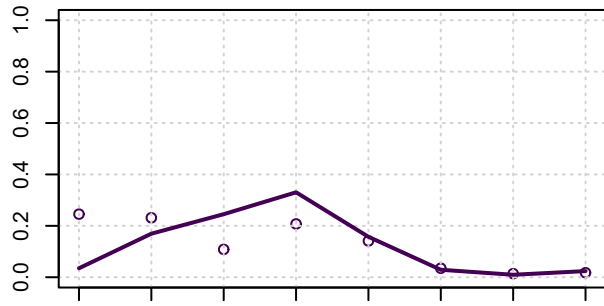
Age

# South\_Commercial in South

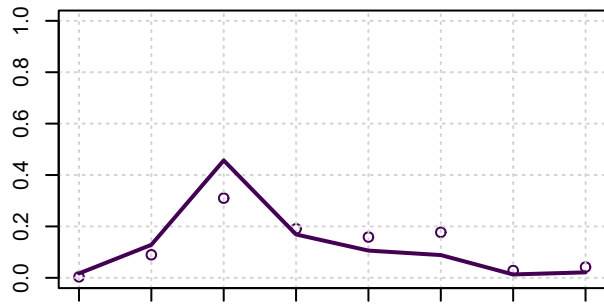
Year = 2019



Year = 2020



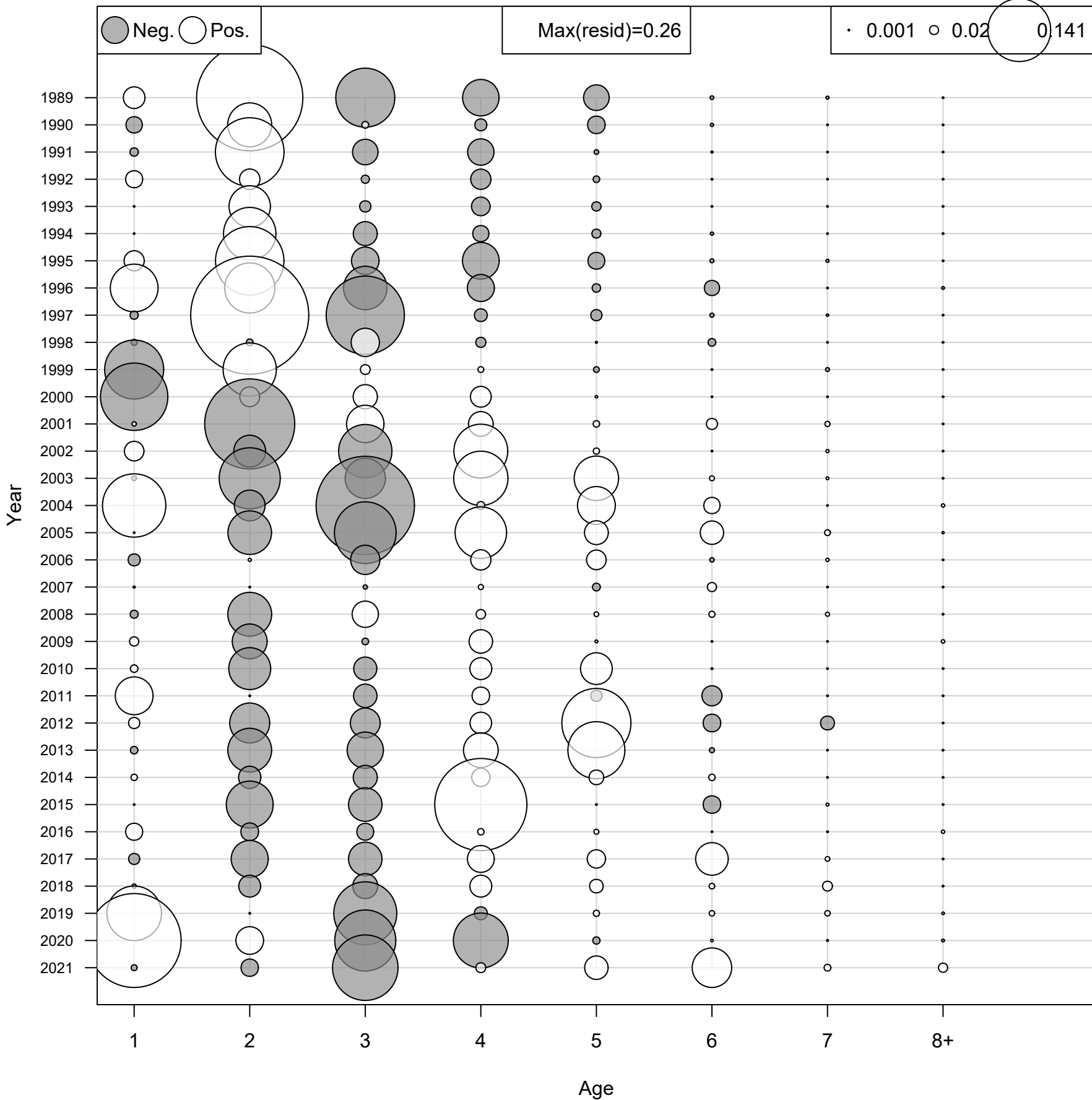
Year = 2021



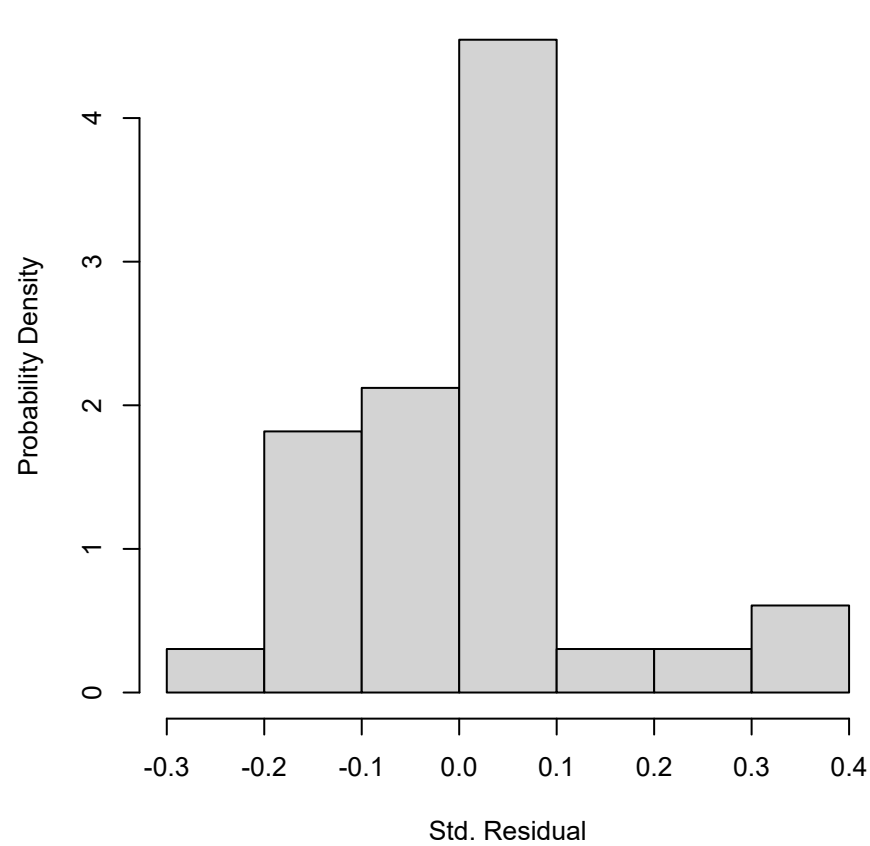
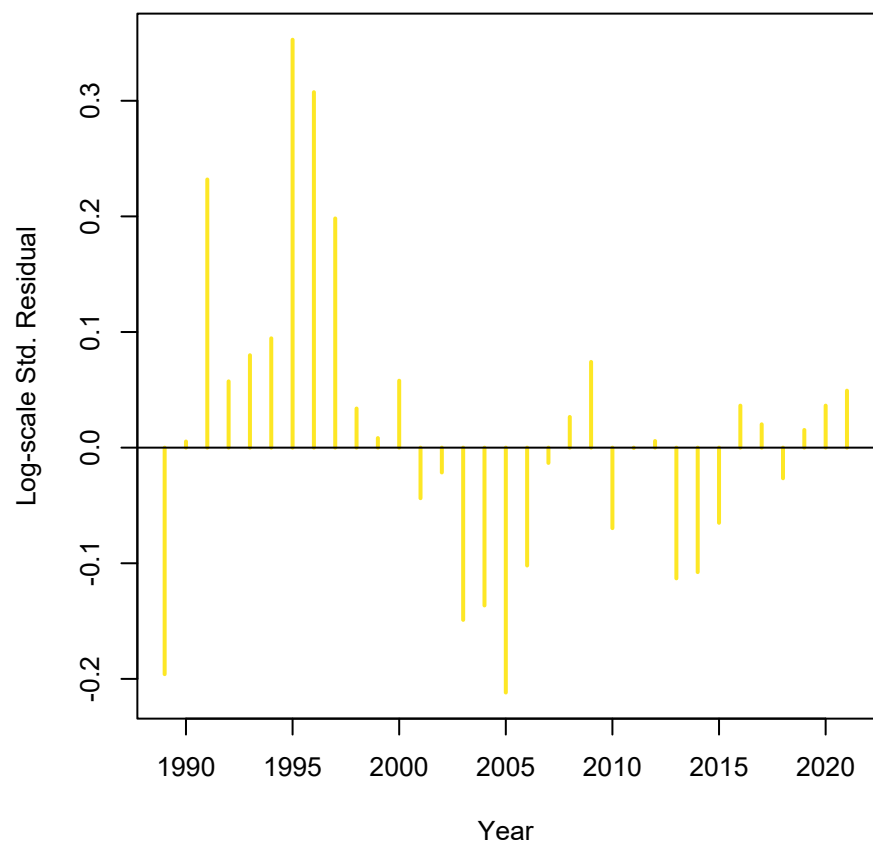
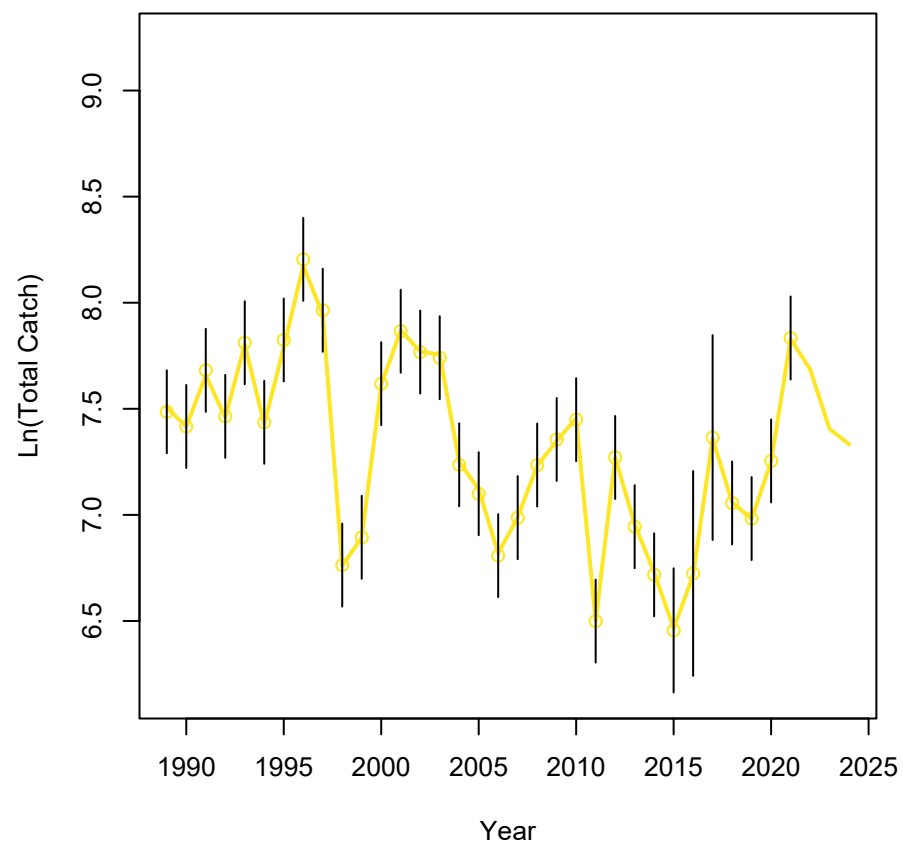
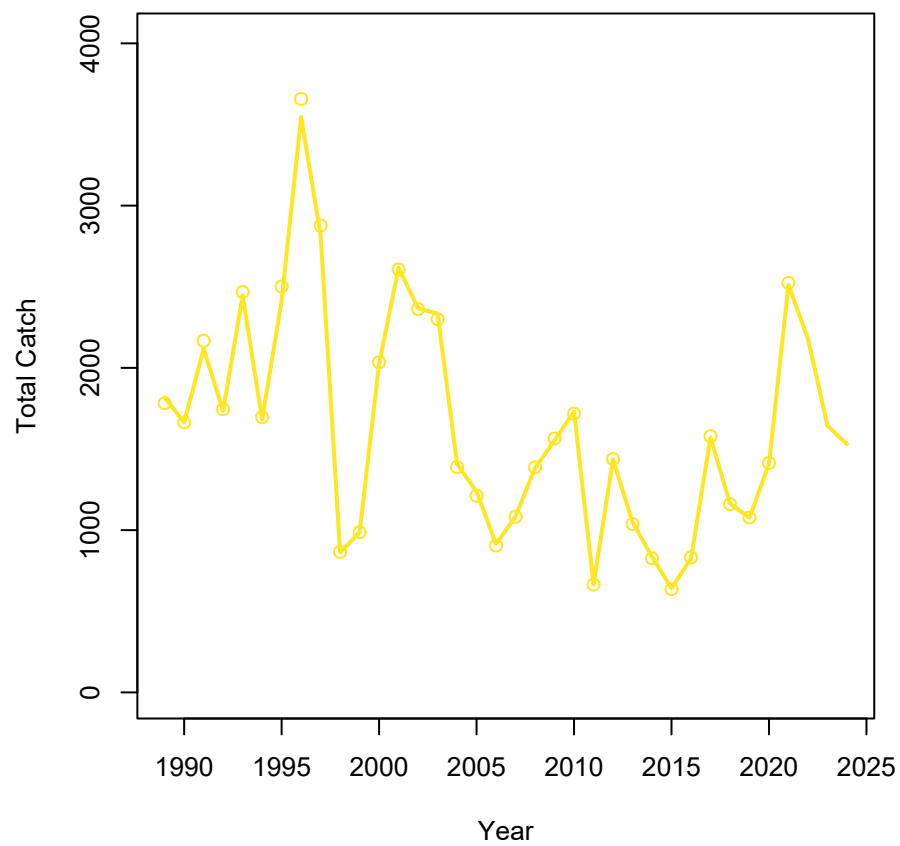
Age



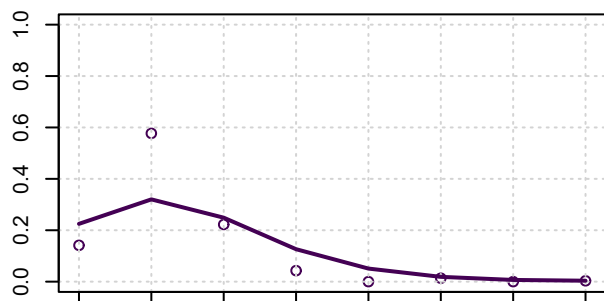
# Age Comp Residuals (Observed-Predicted) for South\_Commercial



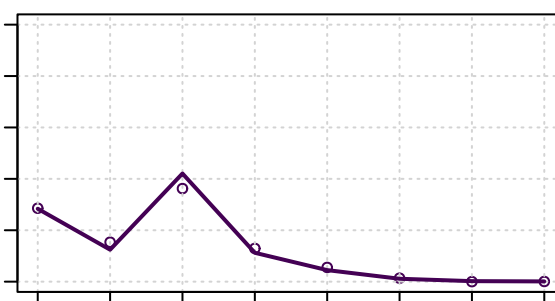
# South\_Recreational in South



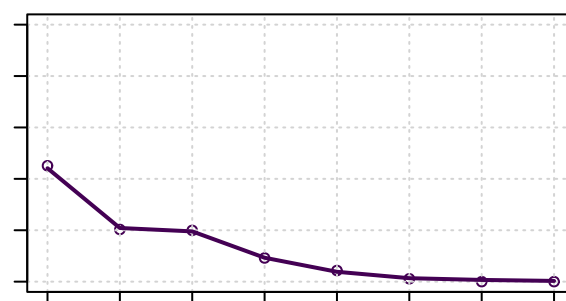
**Year = 1989**



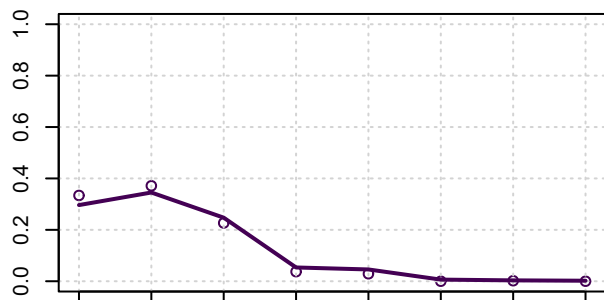
**South\_Recreational in South  
Year = 1994**



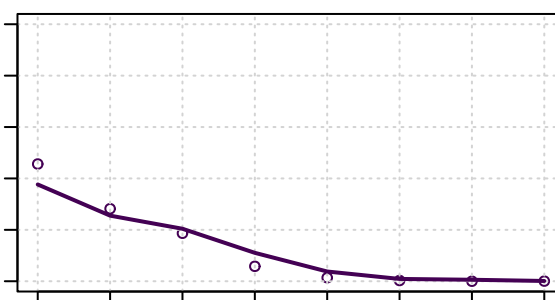
**Year = 1999**



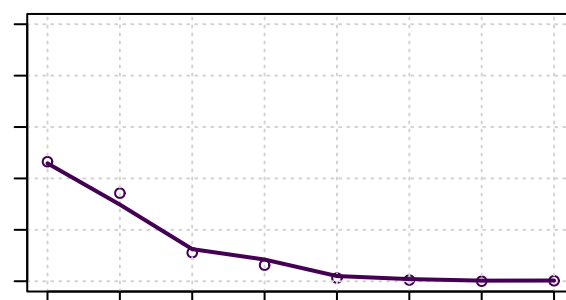
**Year = 1990**



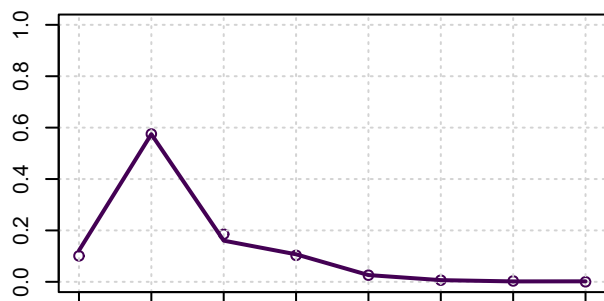
**Year = 1995**



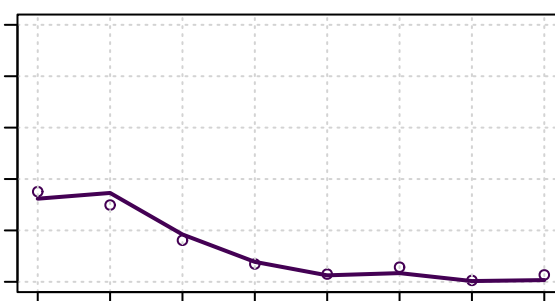
**Year = 2000**



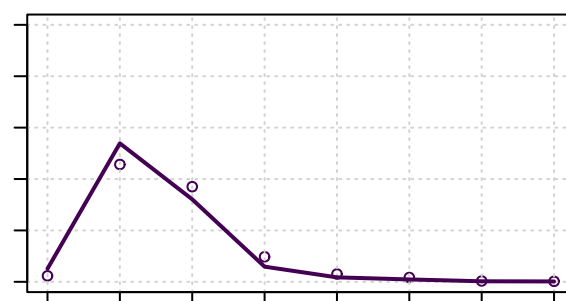
**Year = 1991**



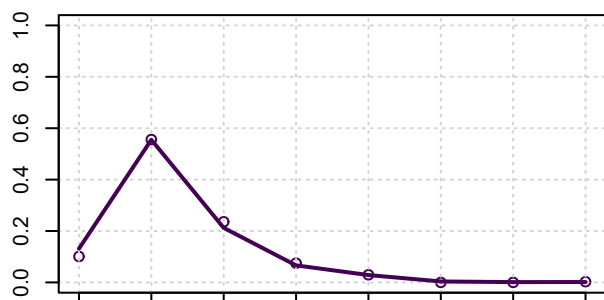
**Year = 1996**



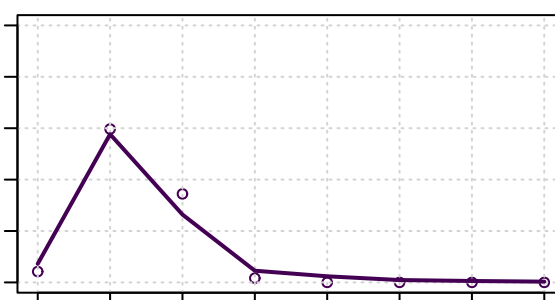
**Year = 2001**



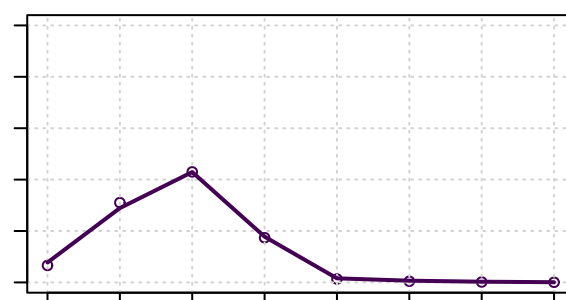
**Year = 1992**



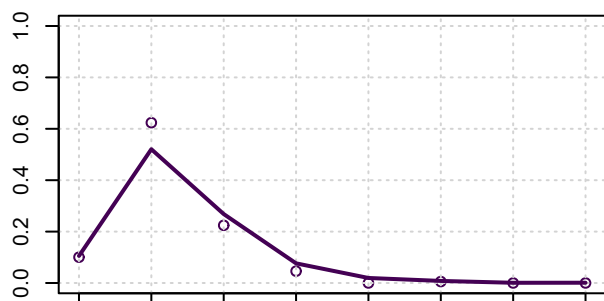
**Year = 1997**



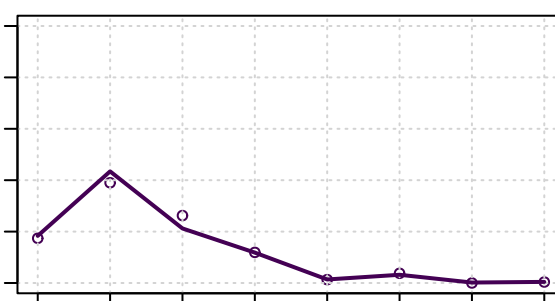
**Year = 2002**



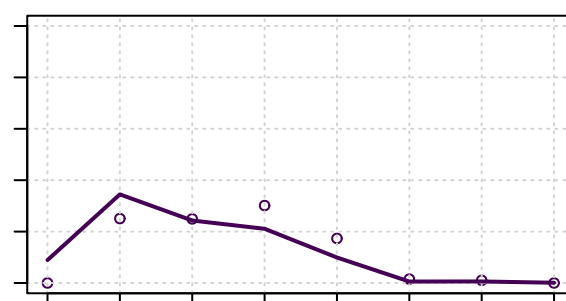
**Year = 1993**



**Year = 1998**



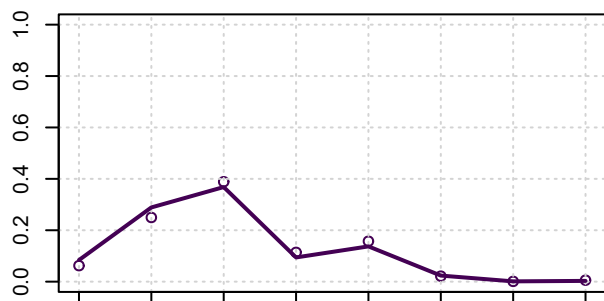
**Year = 2003**



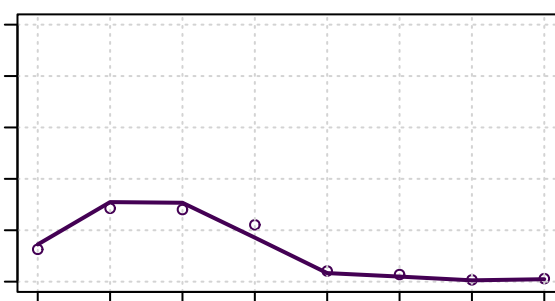
Proportion

Age

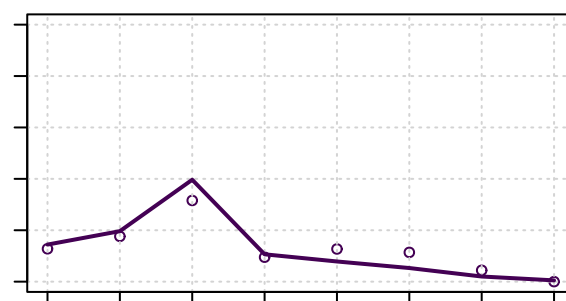
**Year = 2004**



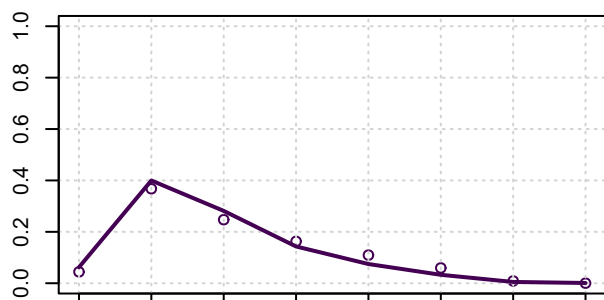
**South\_Recreational in South  
Year = 2009**



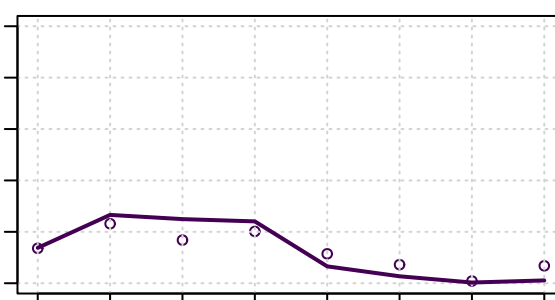
**Year = 2014**



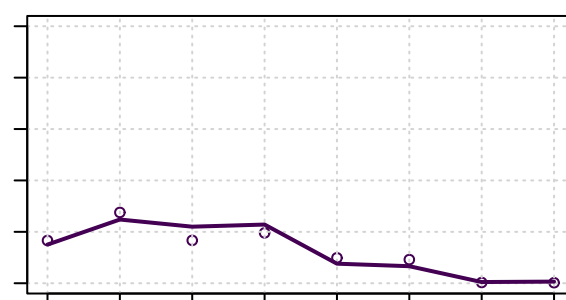
**Year = 2005**



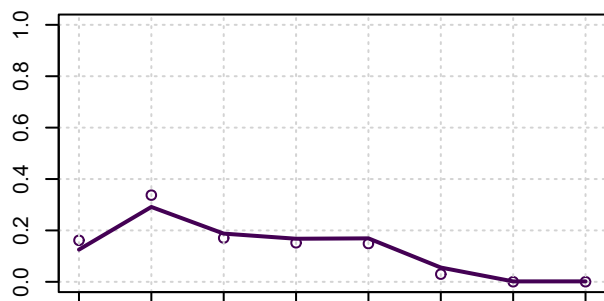
**Year = 2010**



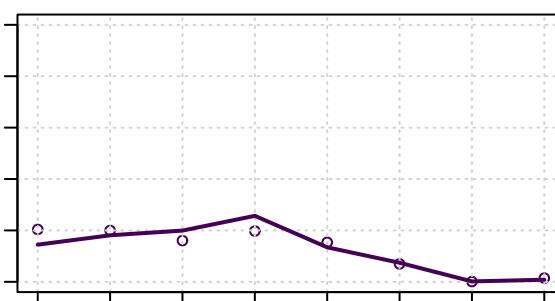
**Year = 2015**



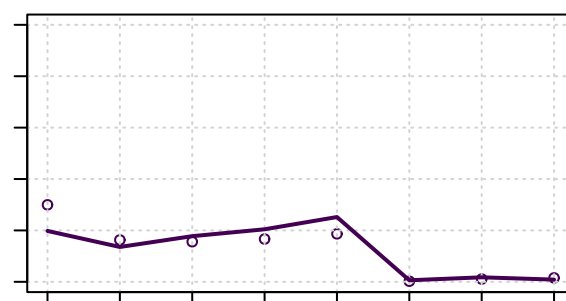
**Year = 2006**



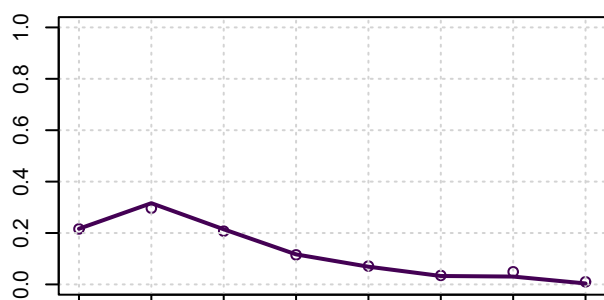
**Year = 2011**



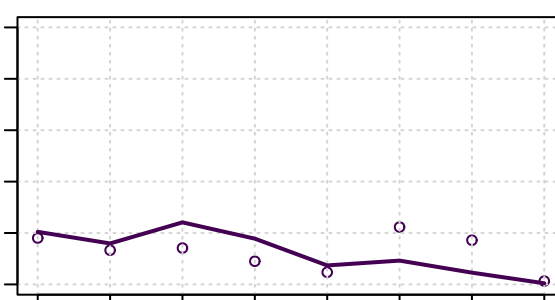
**Year = 2016**



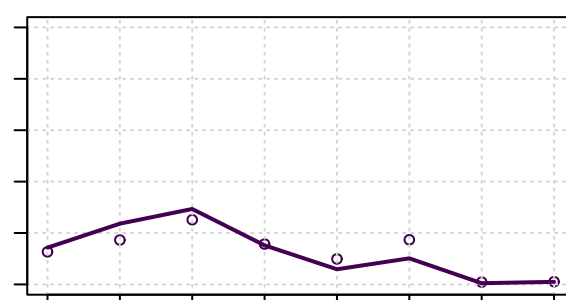
**Year = 2007**



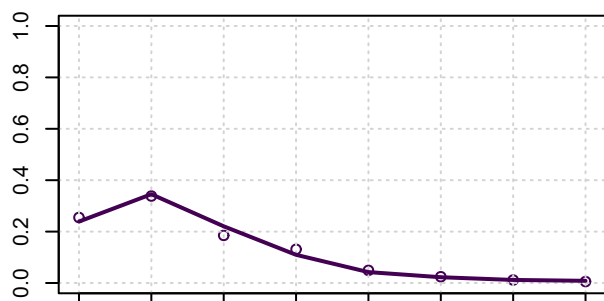
**Year = 2012**



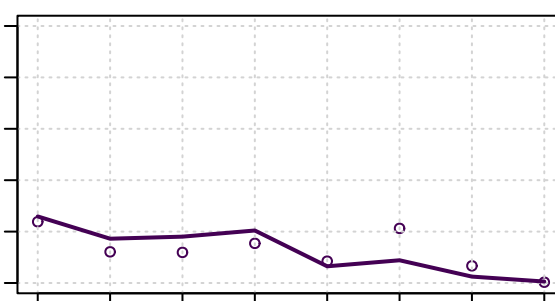
**Year = 2017**



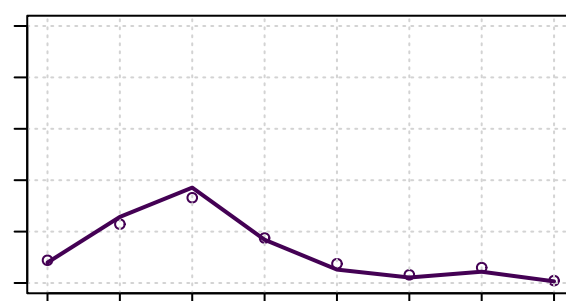
**Year = 2008**



**Year = 2013**



**Year = 2018**

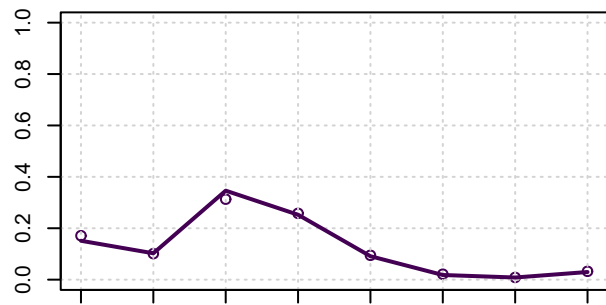


Proportion

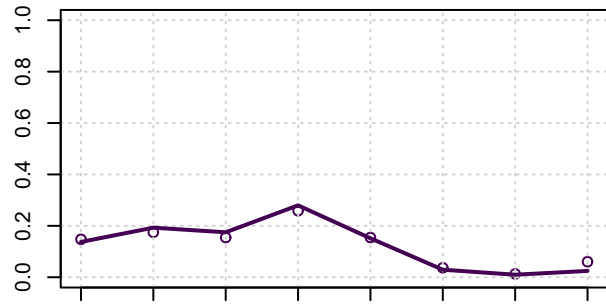
Age

# South\_Recreational in South

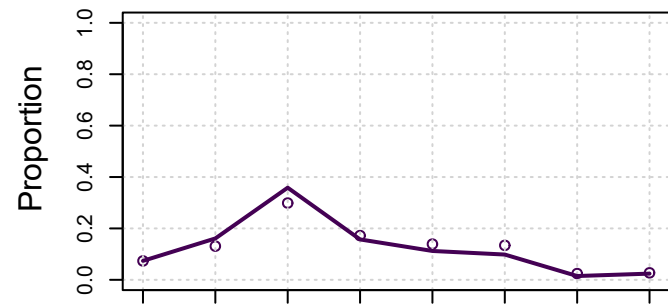
Year = 2019



Year = 2020

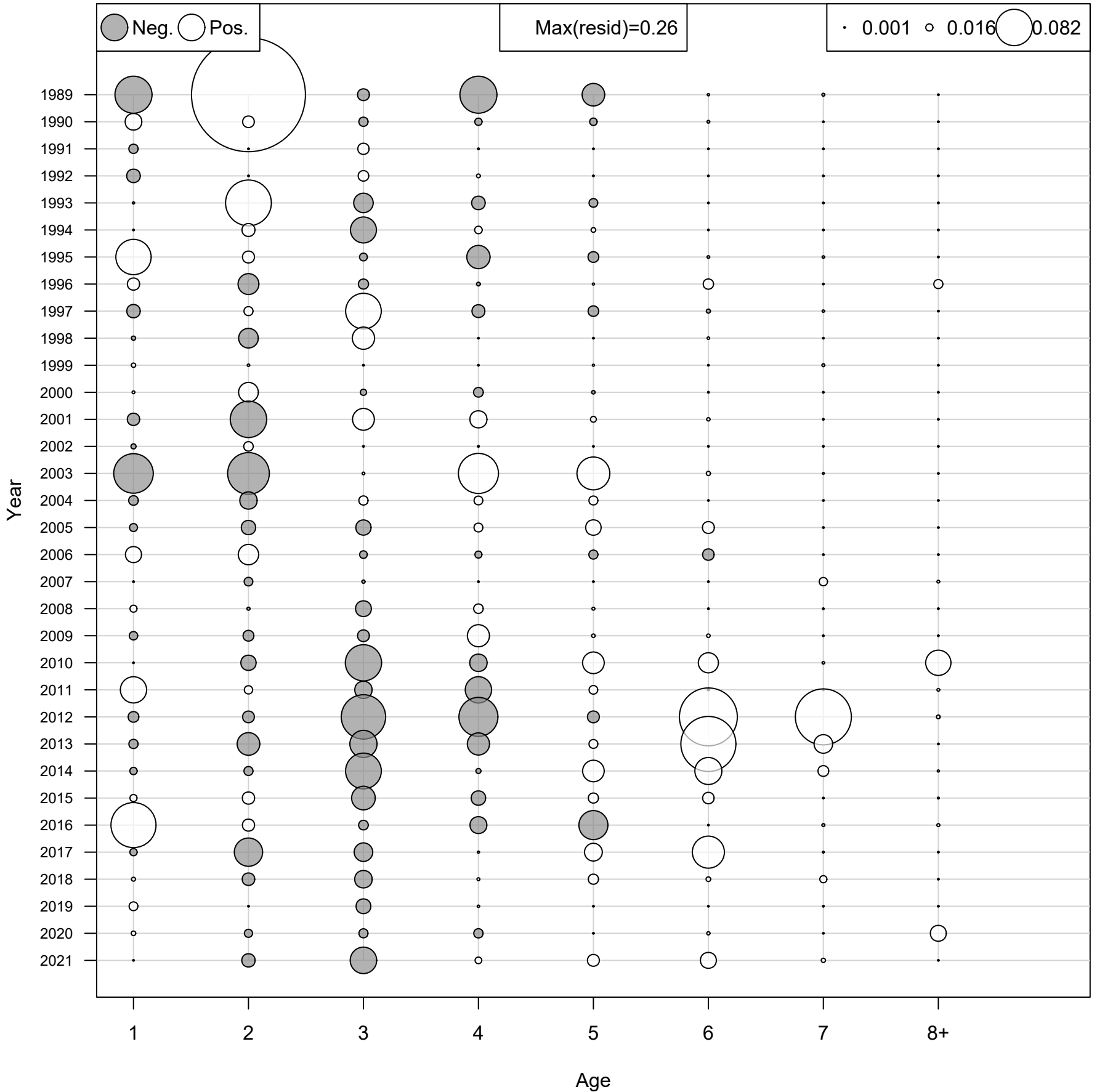


Year = 2021

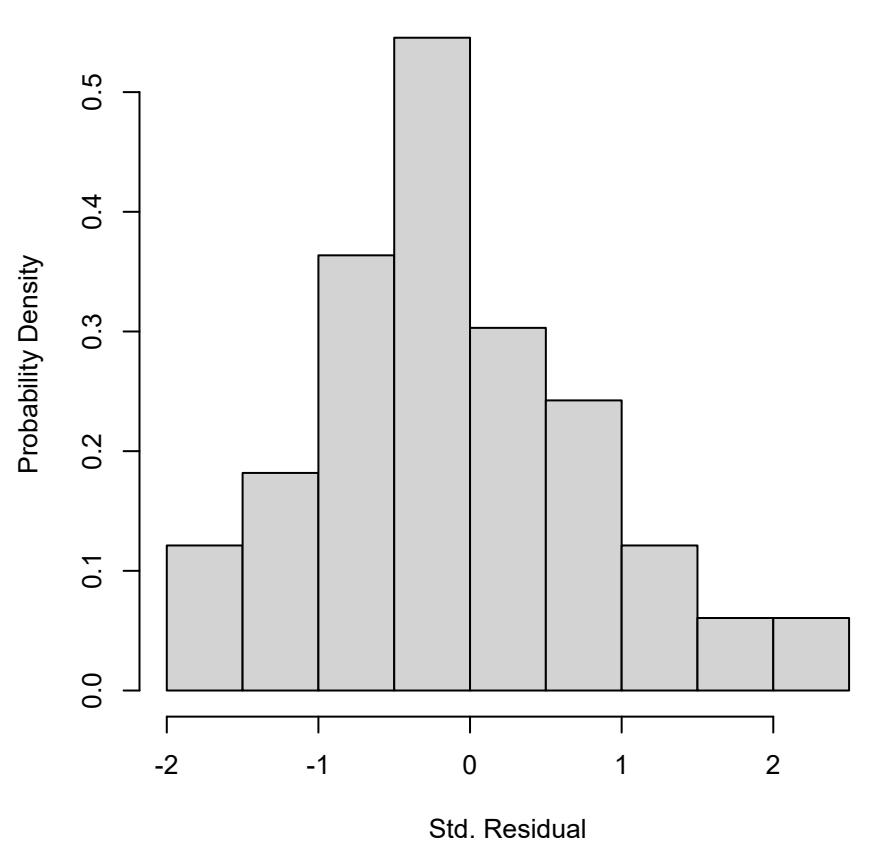
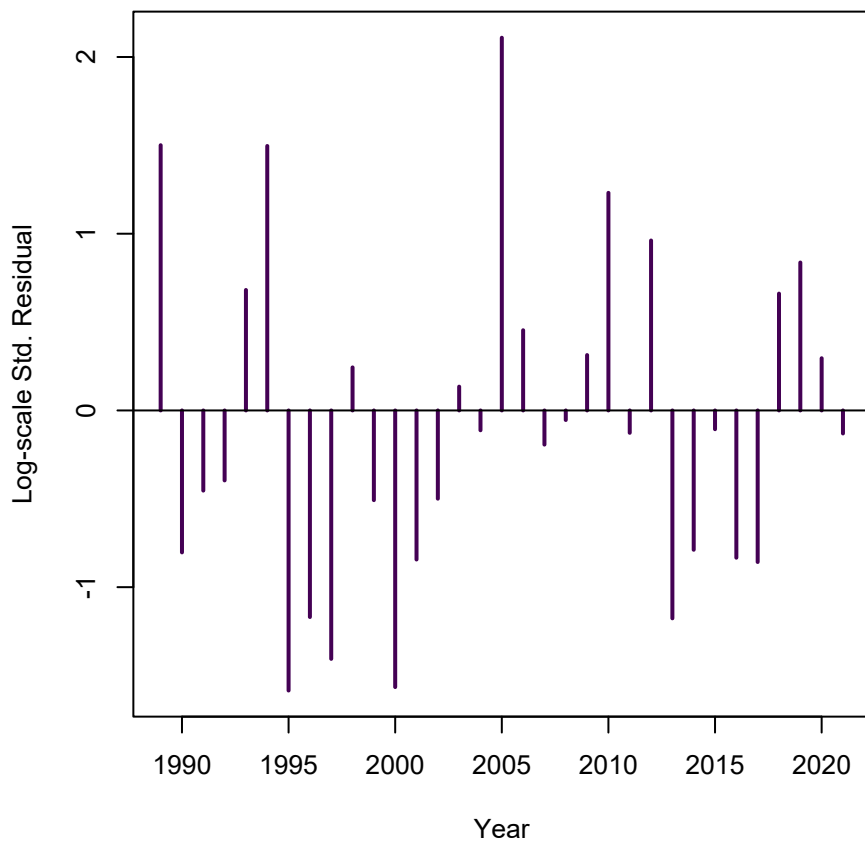
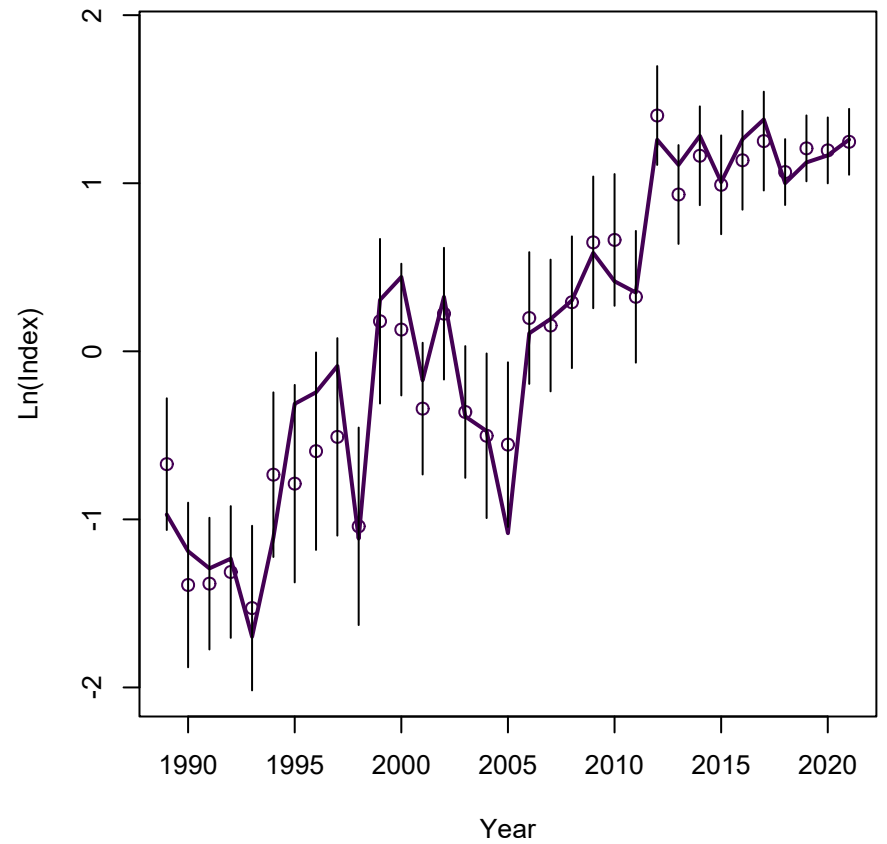
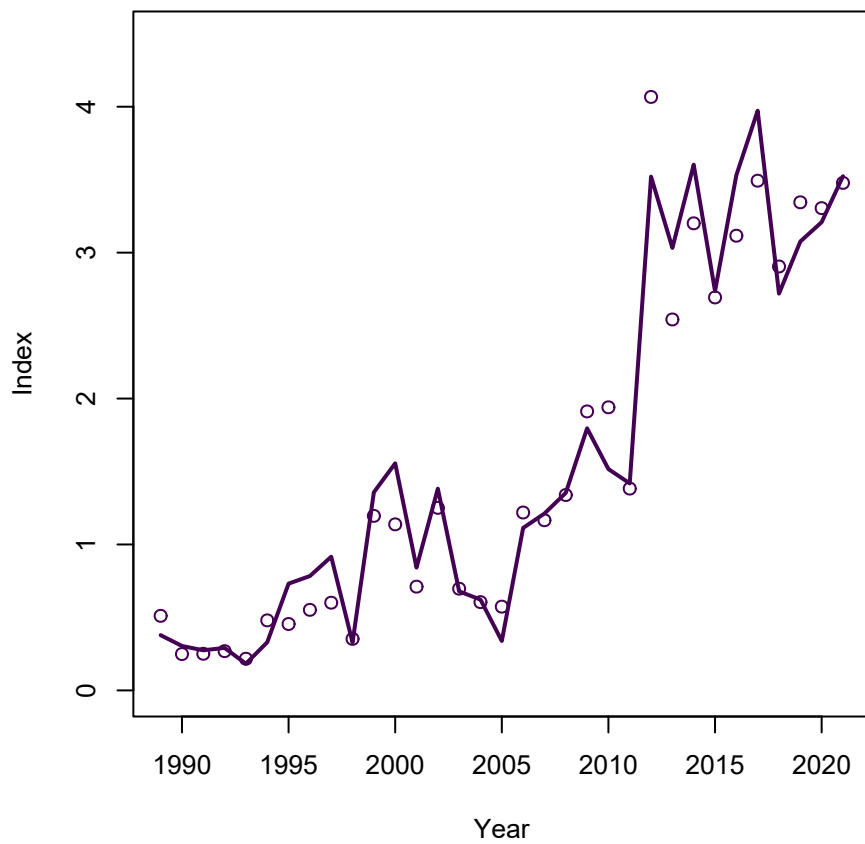


Age

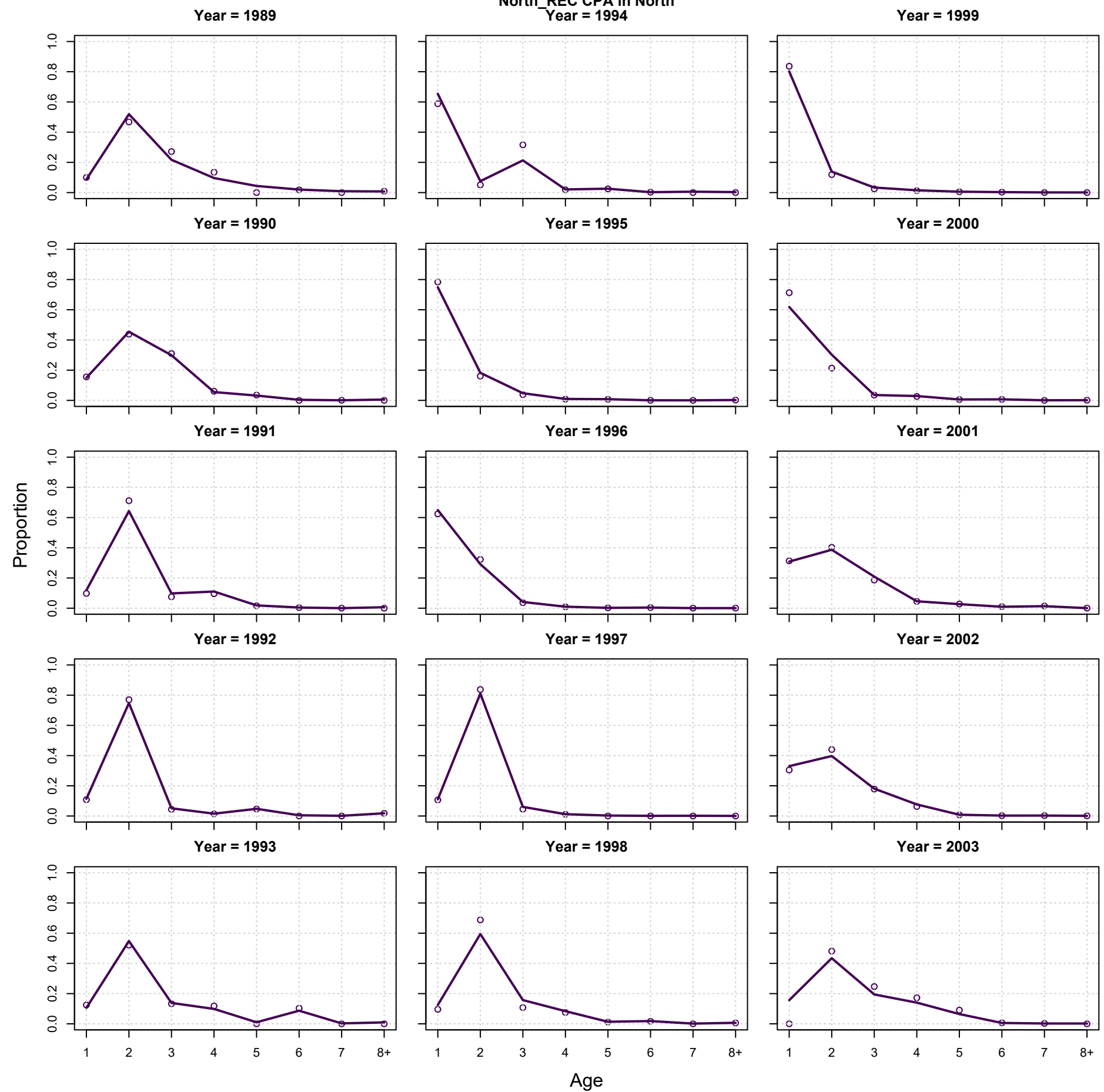
# Age Comp Residuals (Observed-Predicted) for South\_Recreational



North\_REC CPA in North

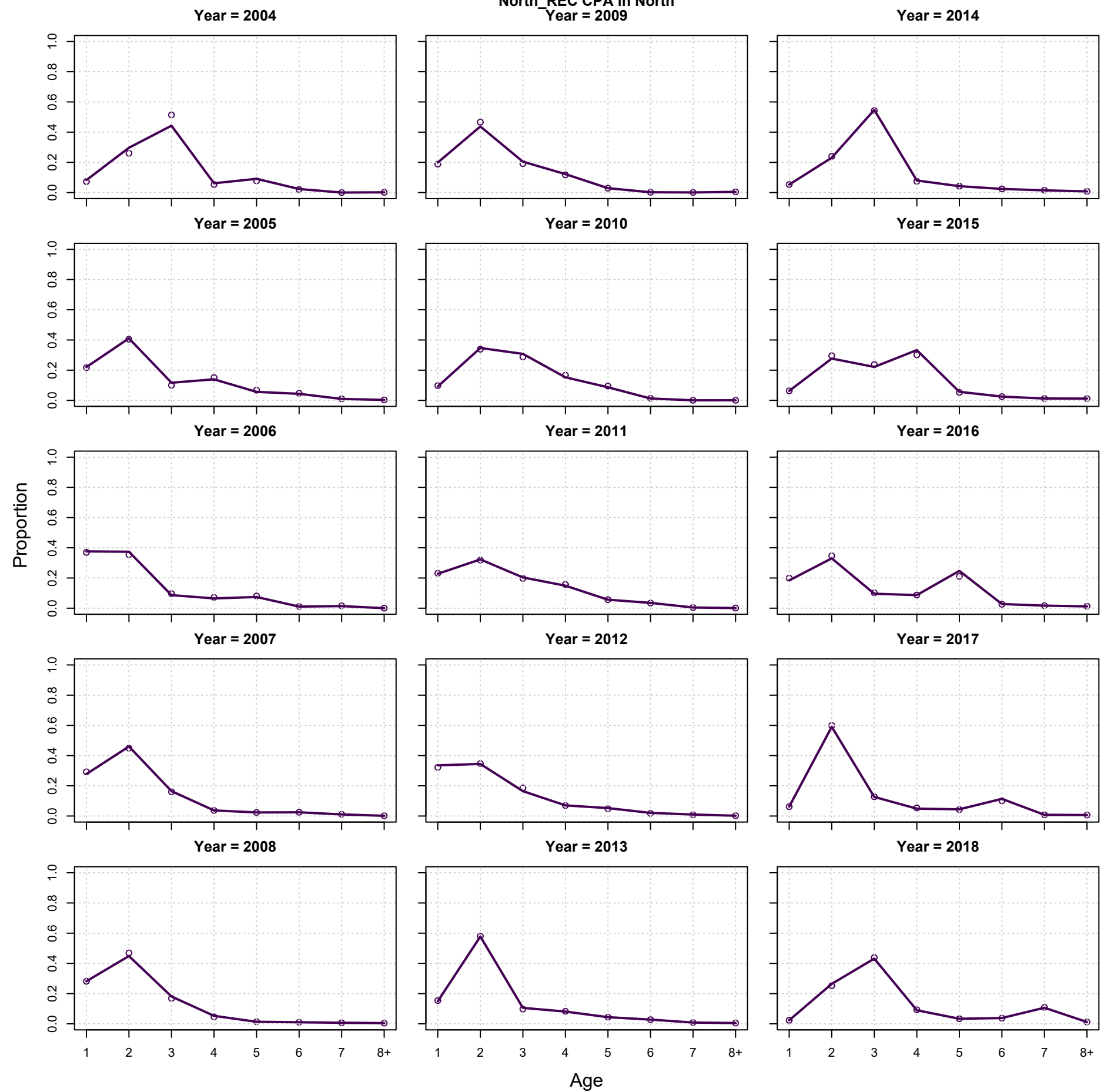


# North\_REC CPA in North



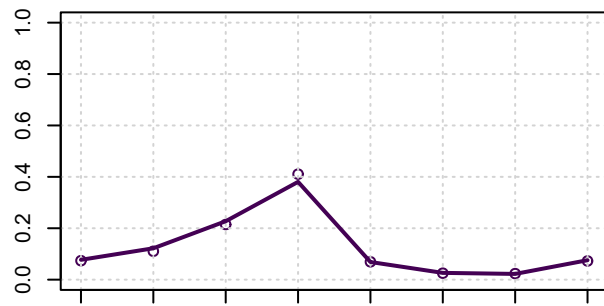


# North\_REC CPA in North

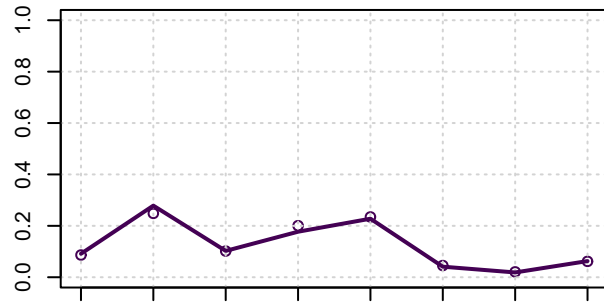


# North\_REC CPA in North

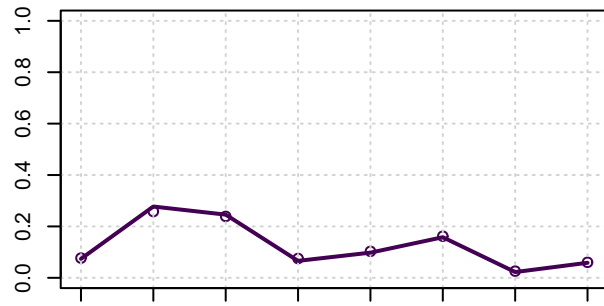
Year = 2019



Year = 2020



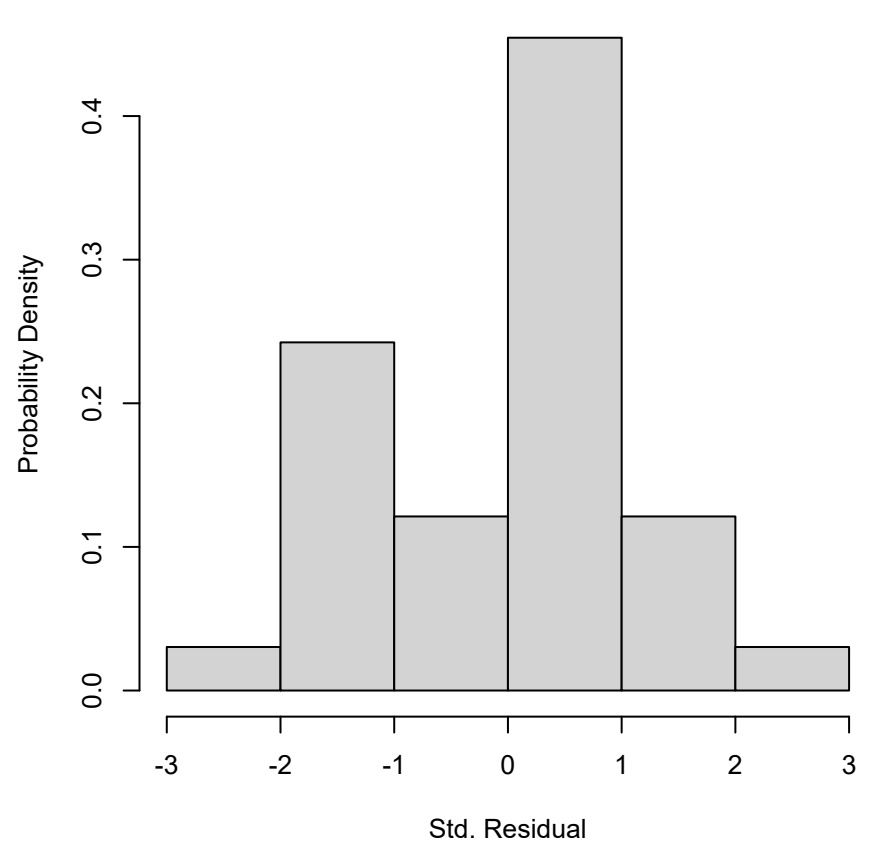
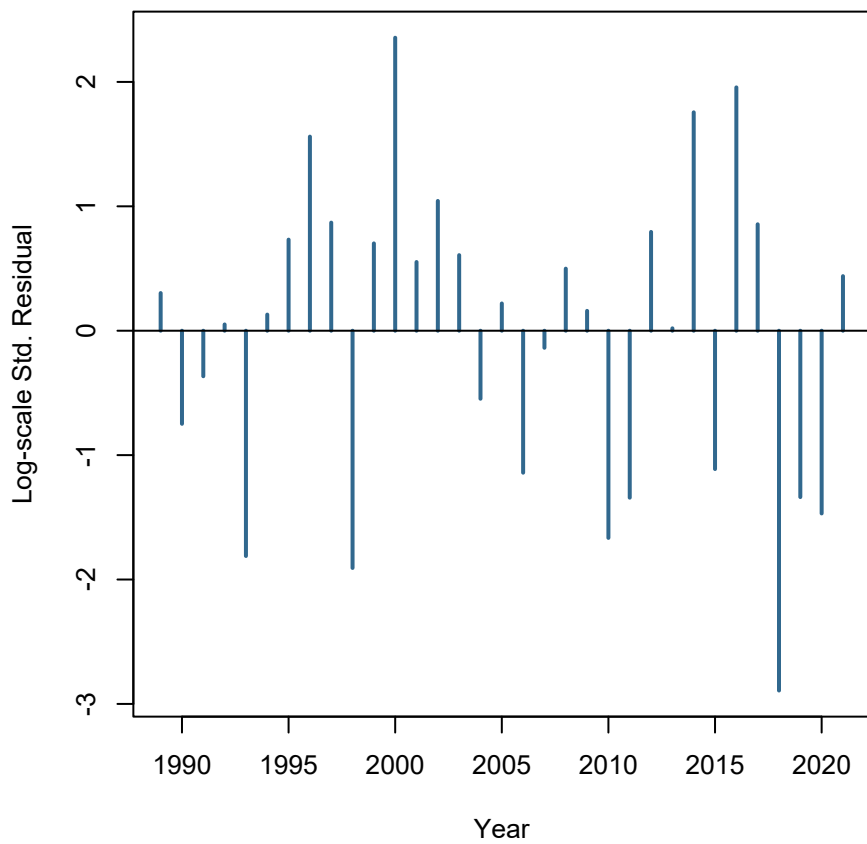
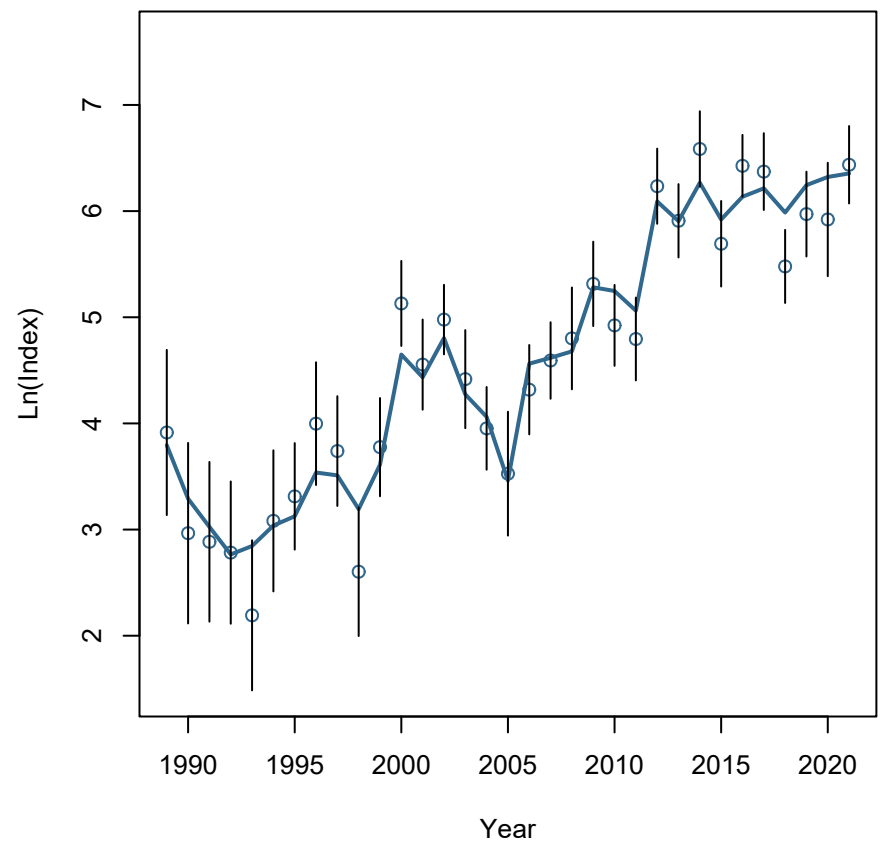
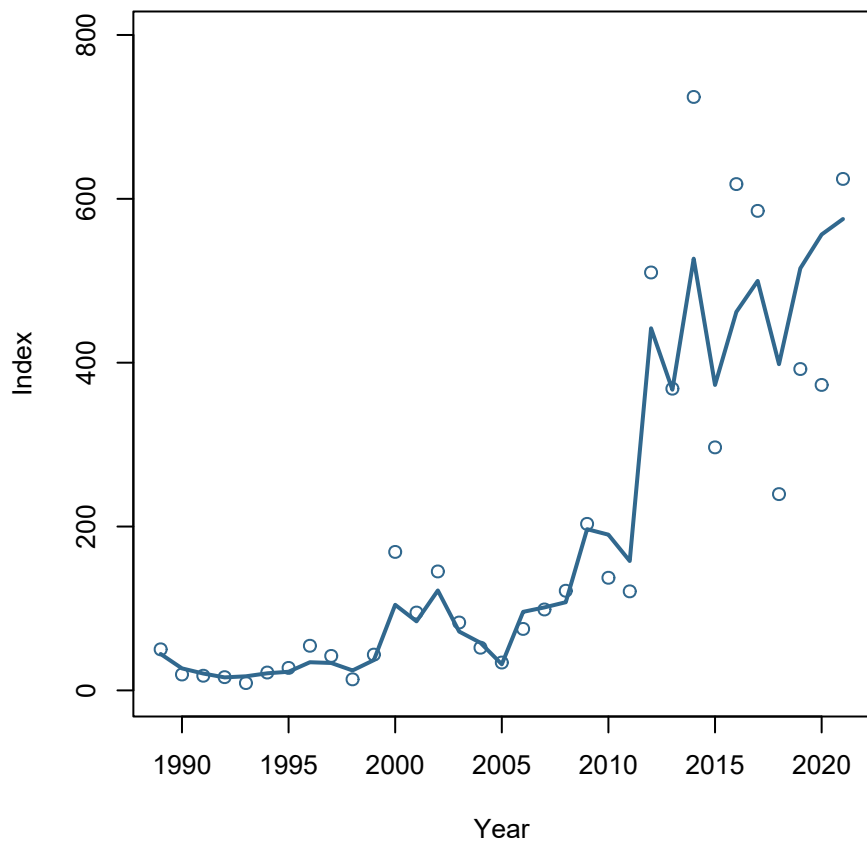
Year = 2021



Age



North\_VAST Spring in North





North\_VAST Spring in North  
Year = 2009

Year = 2004

Year = 2014

Year = 2005

Year = 2010

Year = 2015

Year = 2006

Year = 2011

Year = 2016

Year = 2007

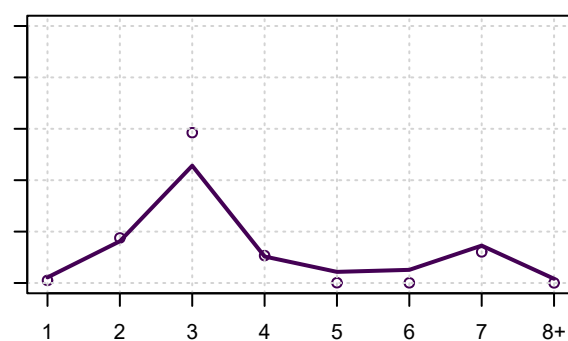
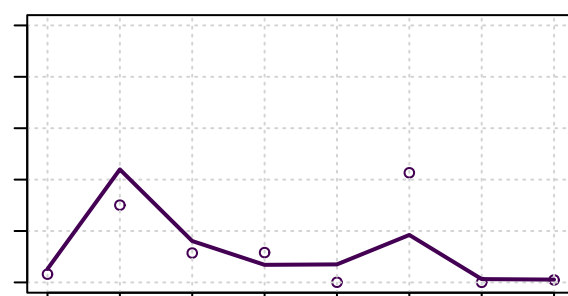
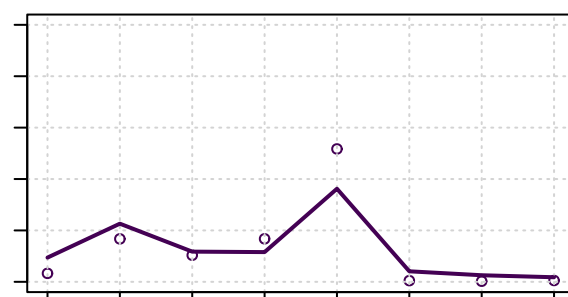
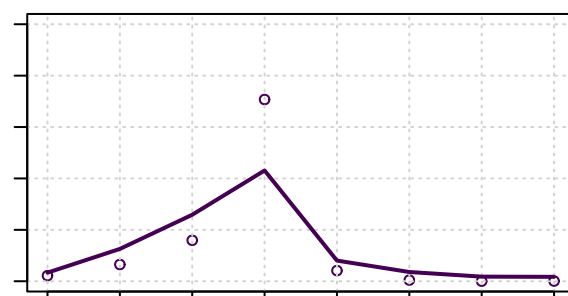
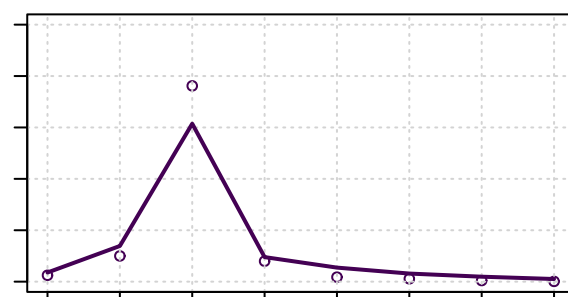
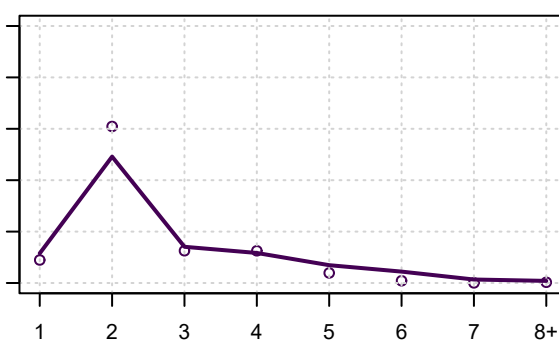
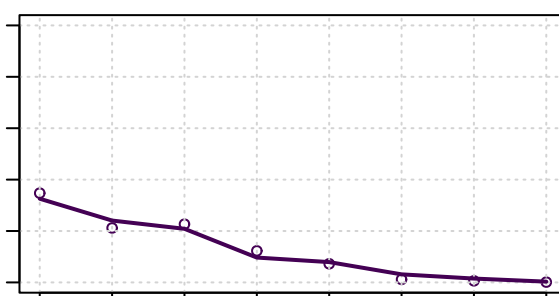
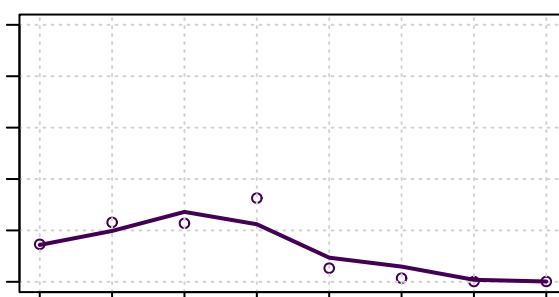
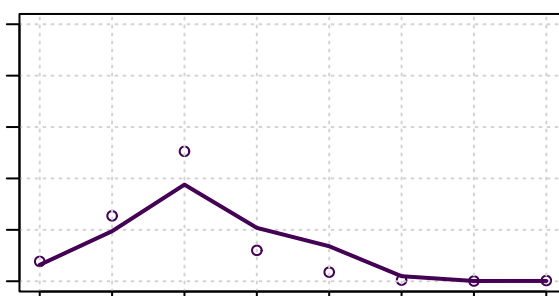
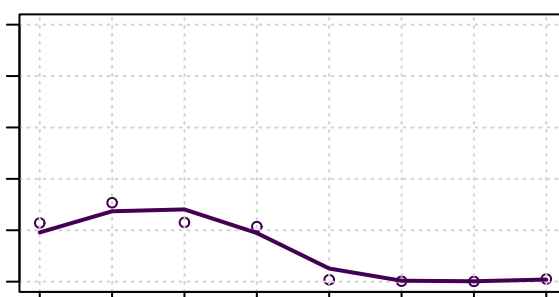
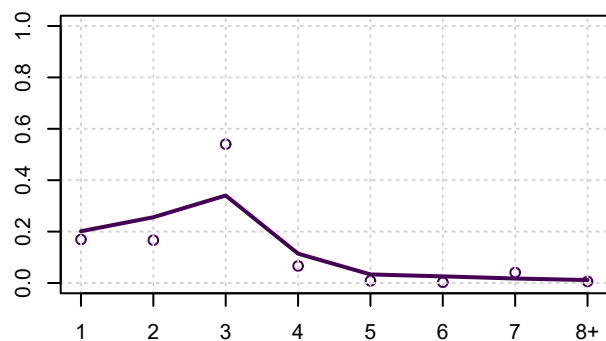
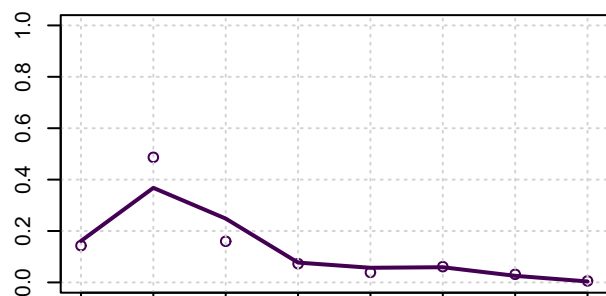
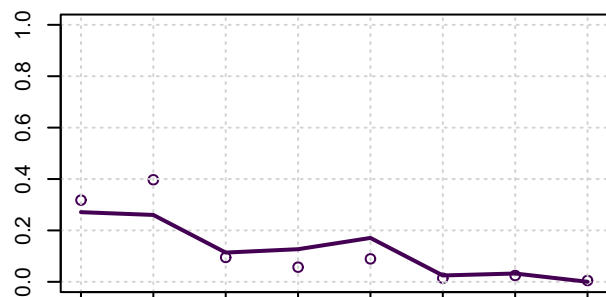
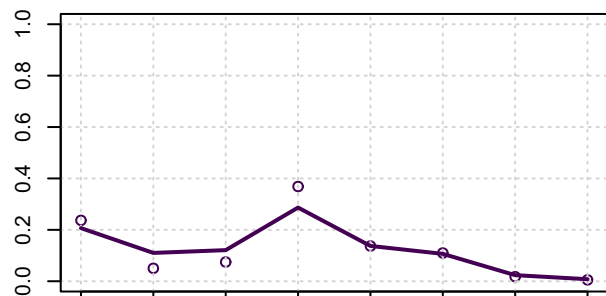
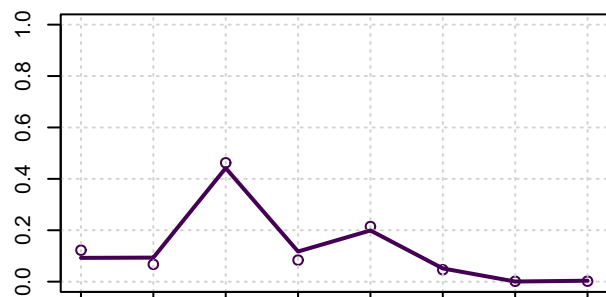
Year = 2012

Year = 2017

Year = 2008

Year = 2013

Year = 2018

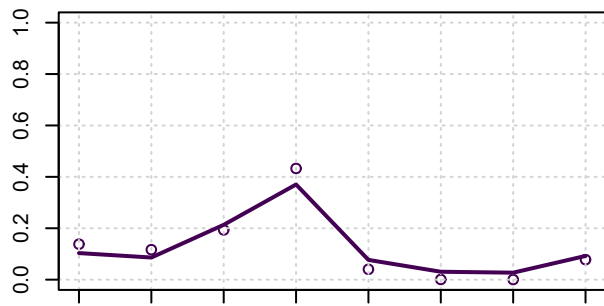


Proportion

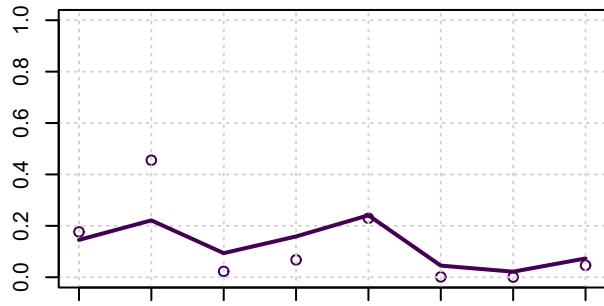
Age

# North\_VAST Spring in North

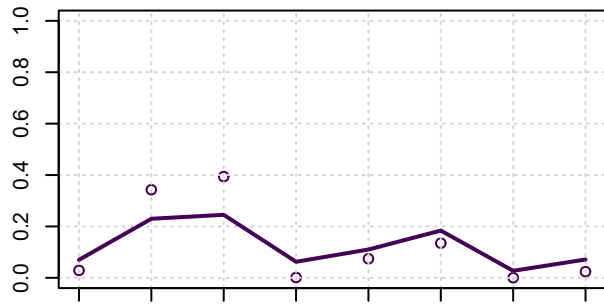
Year = 2019



Year = 2020

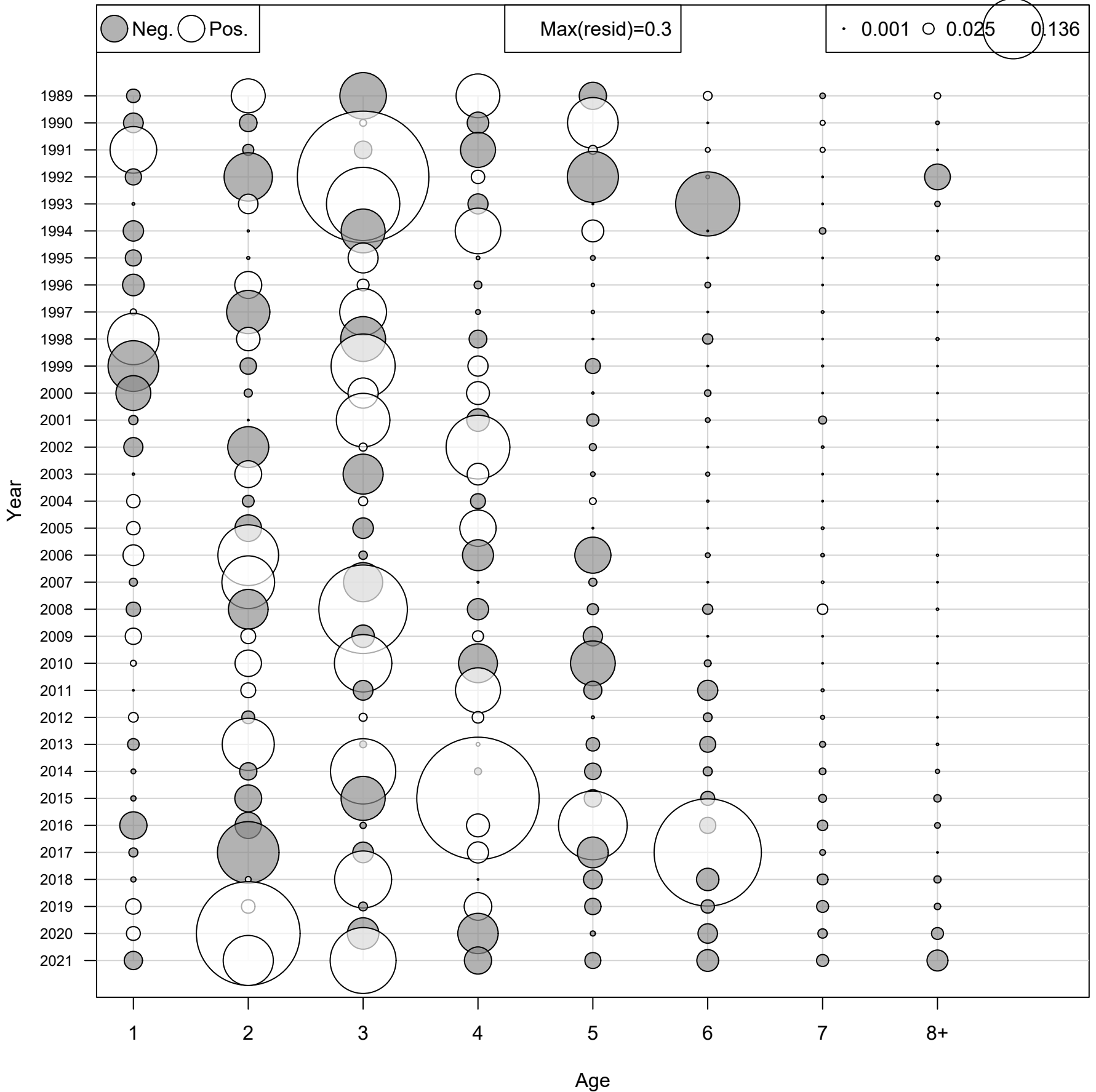


Year = 2021



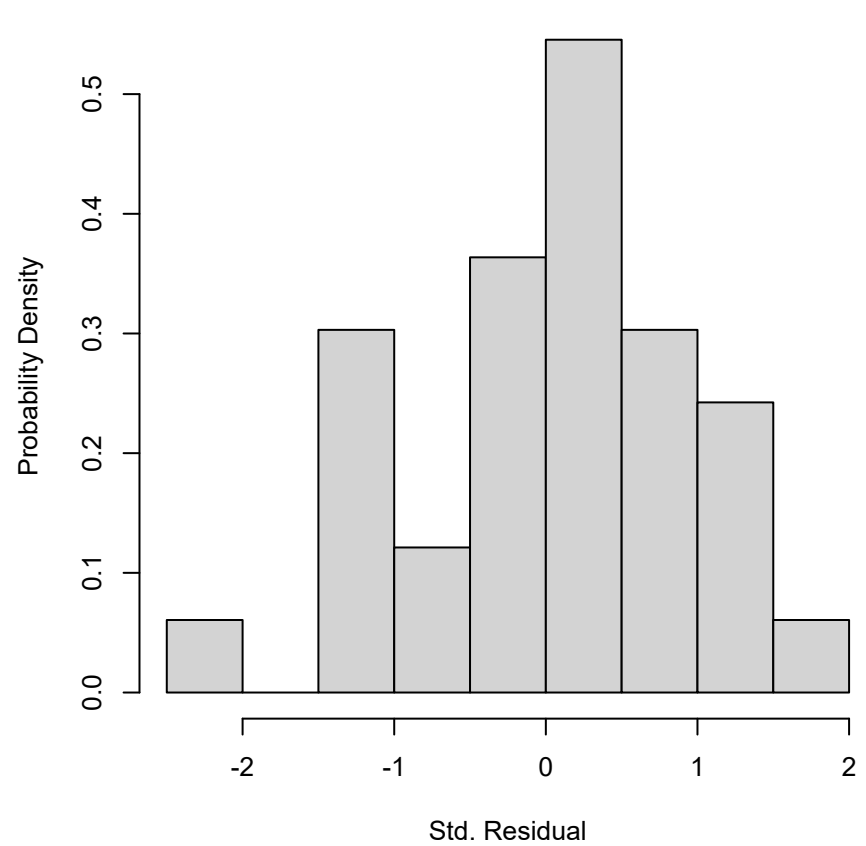
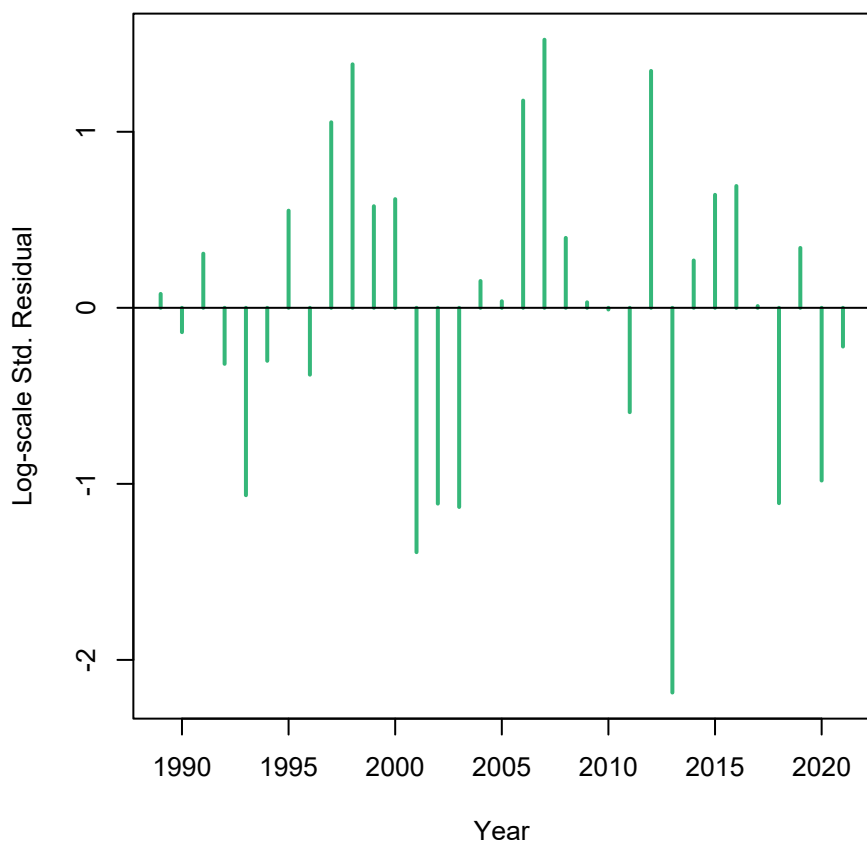
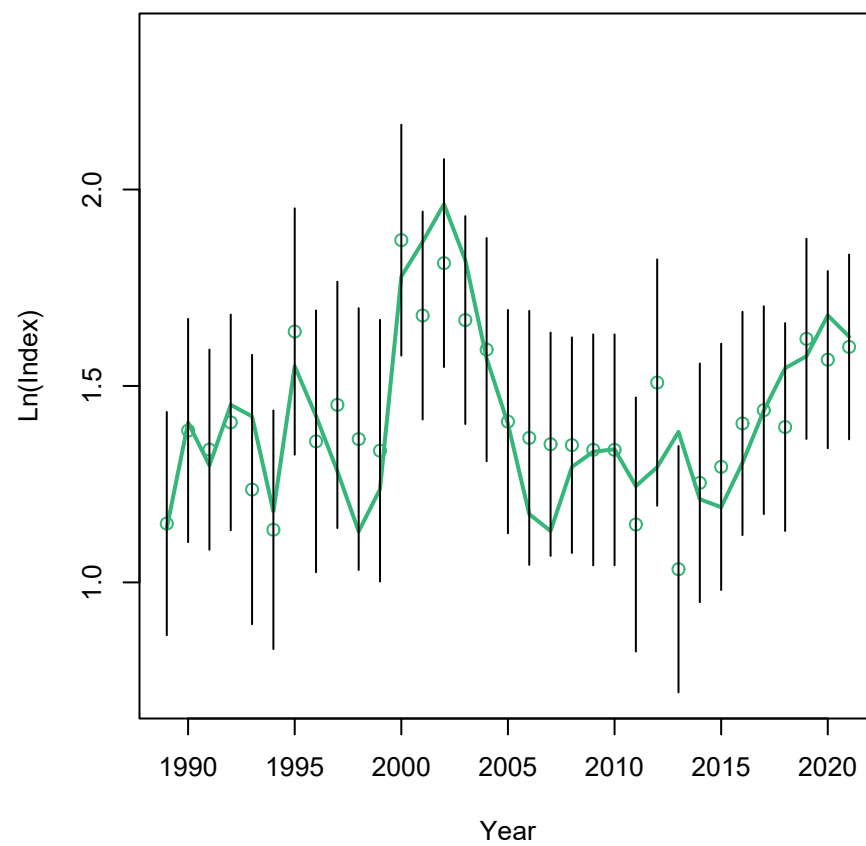
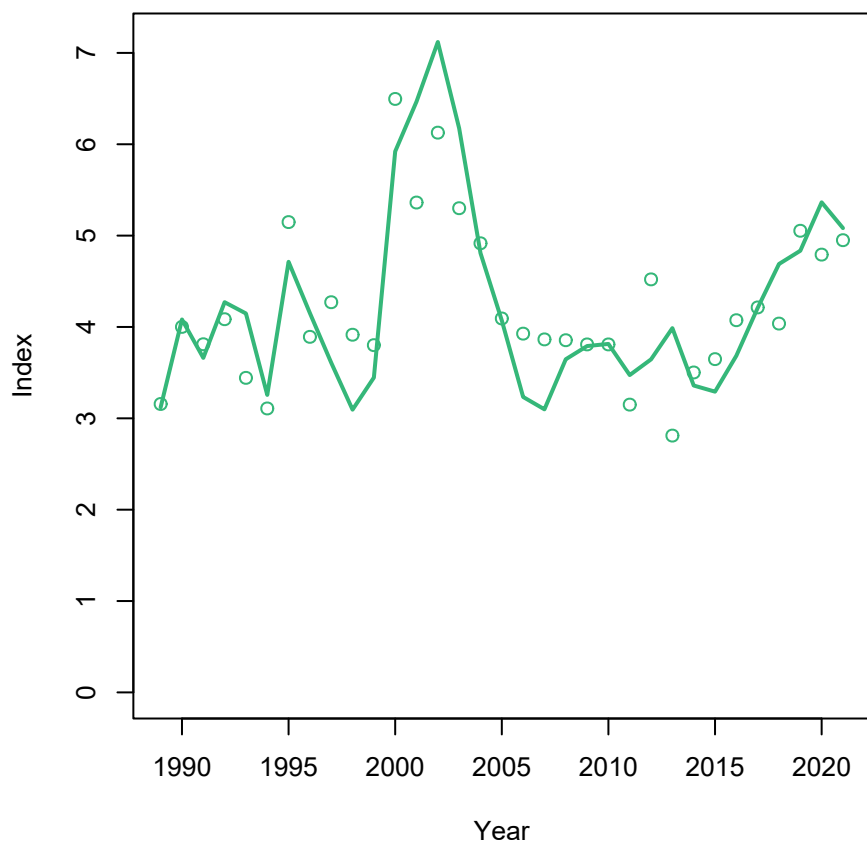
Age

# Age Comp Residuals (Observed-Predicted) for North\_VAST Spring



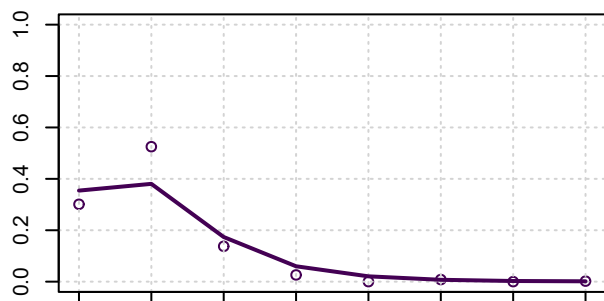


South\_REC CPA in South

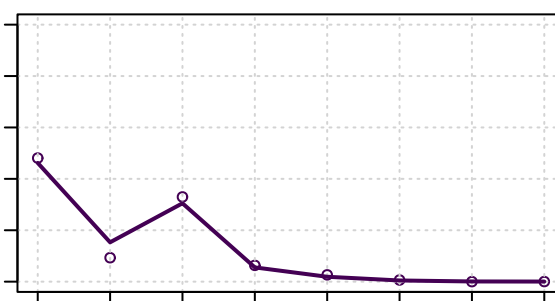


# South\_REC CPA in South

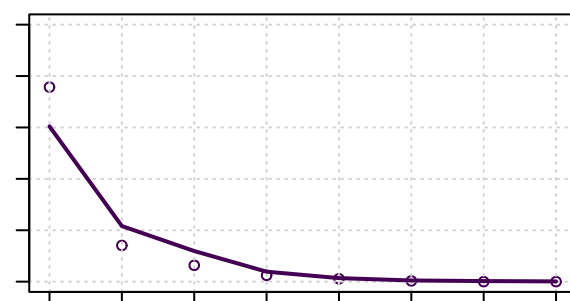
Year = 1989



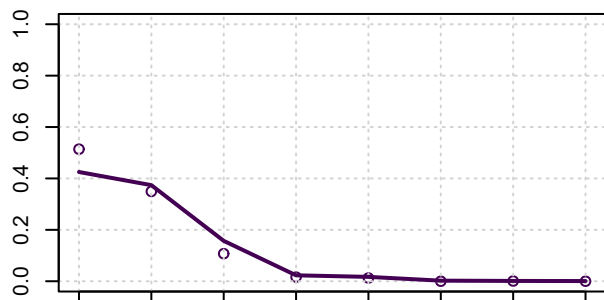
Year = 1994



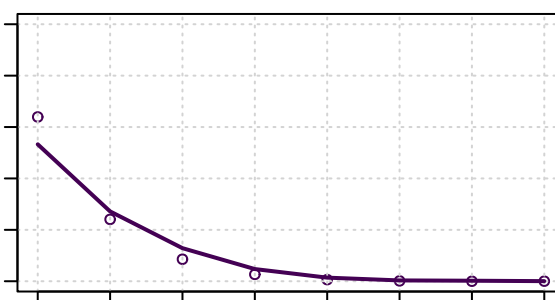
Year = 1999



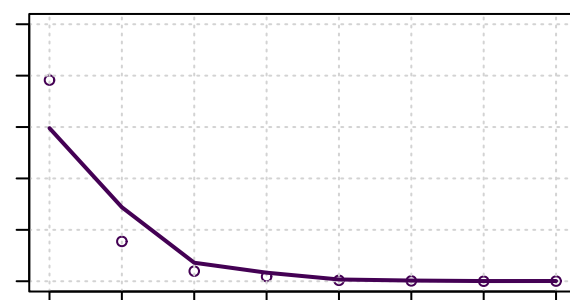
Year = 1990



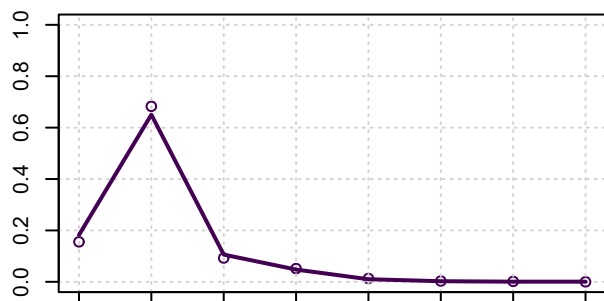
Year = 1995



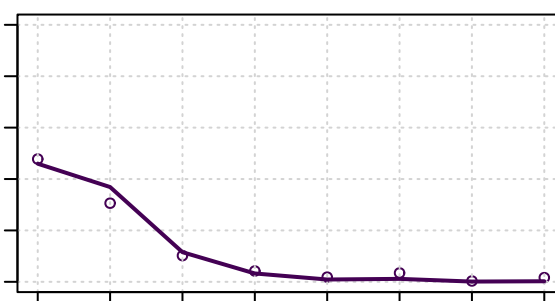
Year = 2000



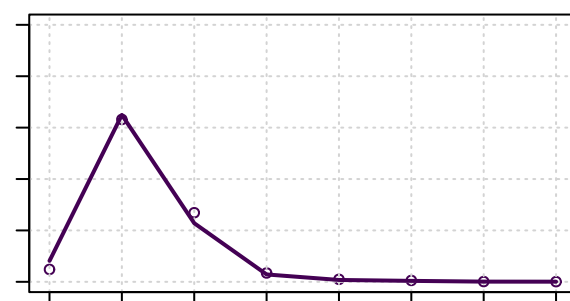
Year = 1991



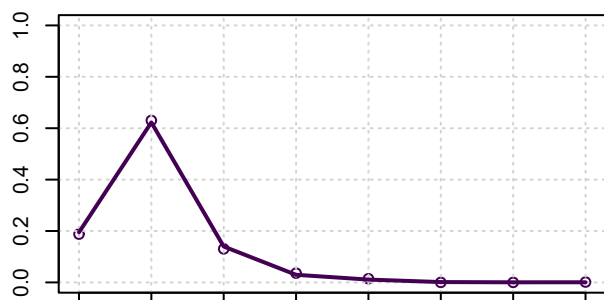
Year = 1996



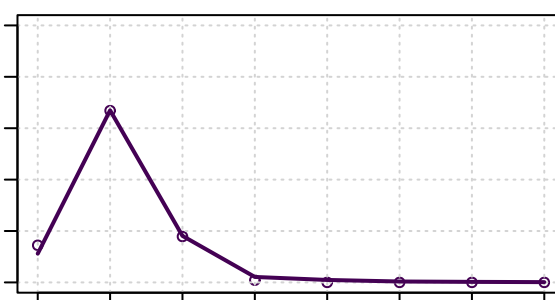
Year = 2001



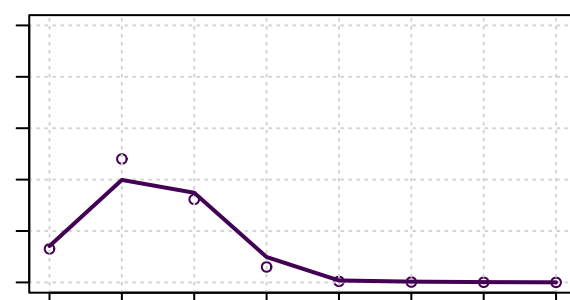
Year = 1992



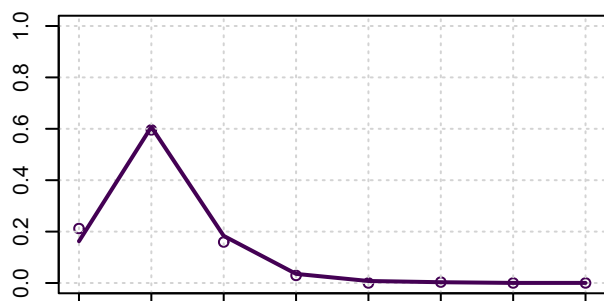
Year = 1997



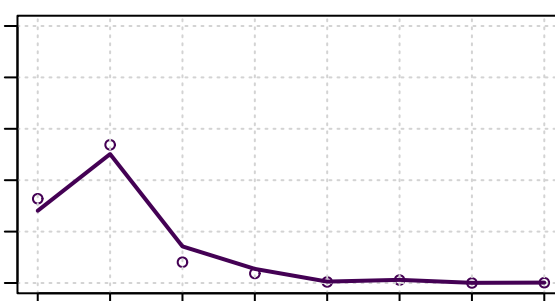
Year = 2002



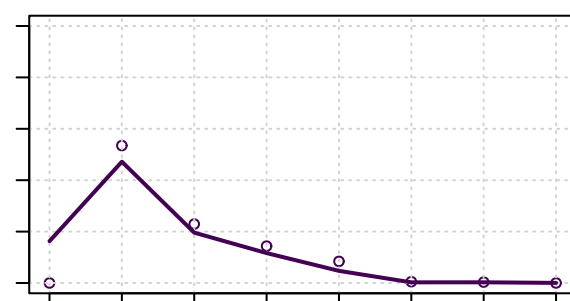
Year = 1993



Year = 1998



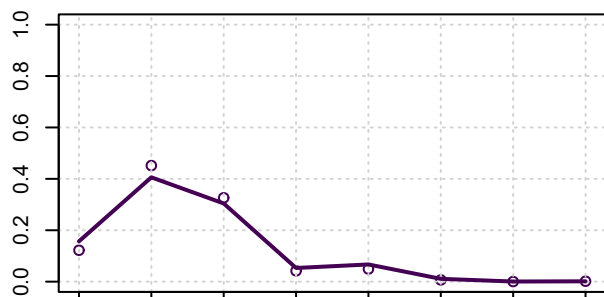
Year = 2003



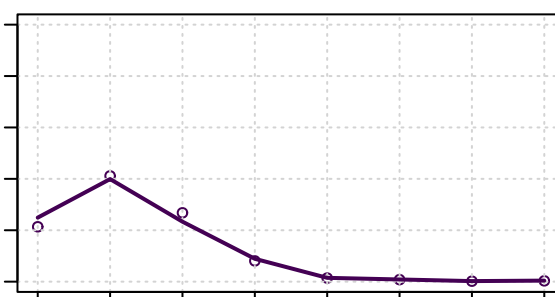
Age

# South\_REC CPA in South

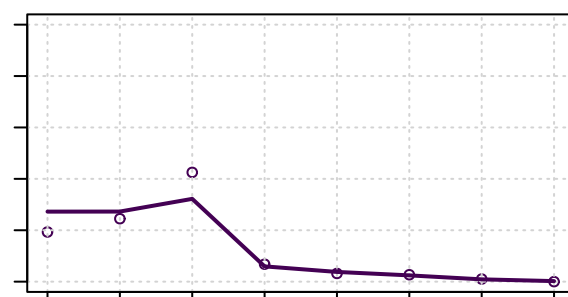
Year = 2004



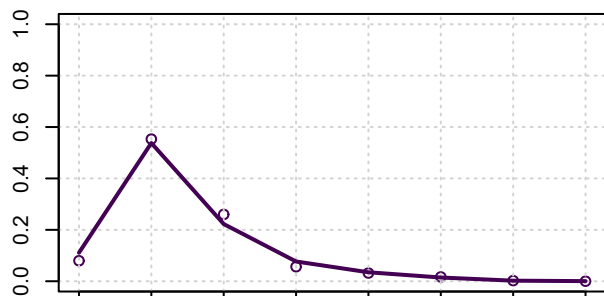
Year = 2009



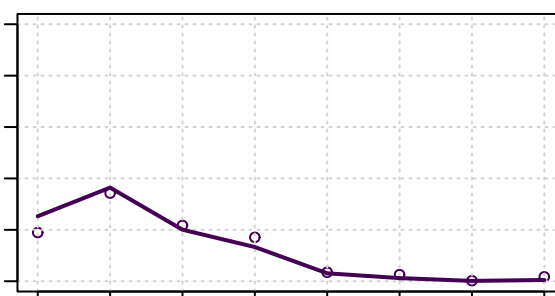
Year = 2014



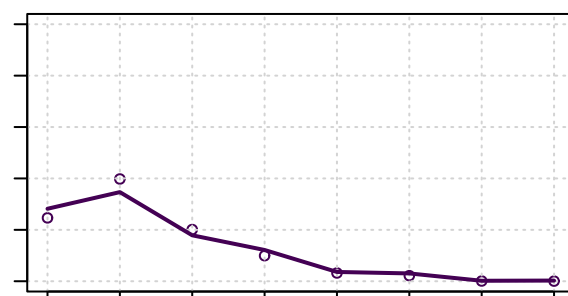
Year = 2005



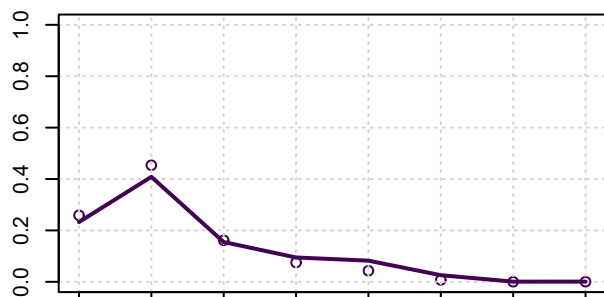
Year = 2010



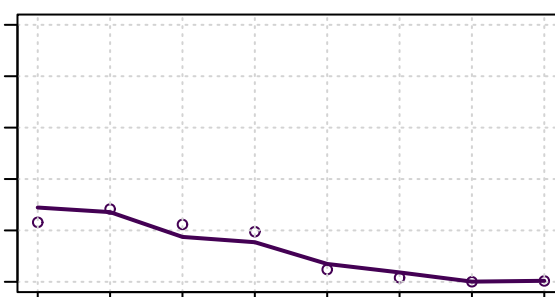
Year = 2015



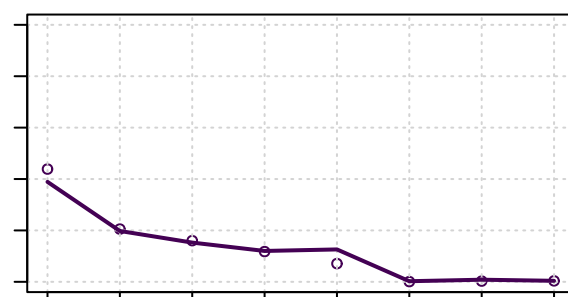
Year = 2006



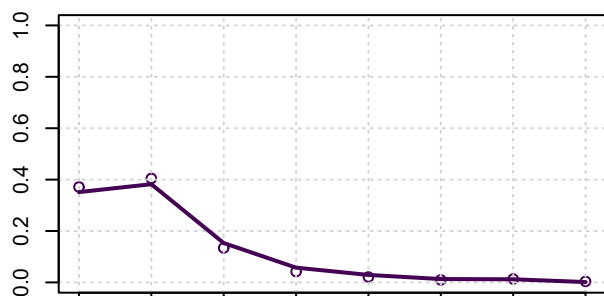
Year = 2011



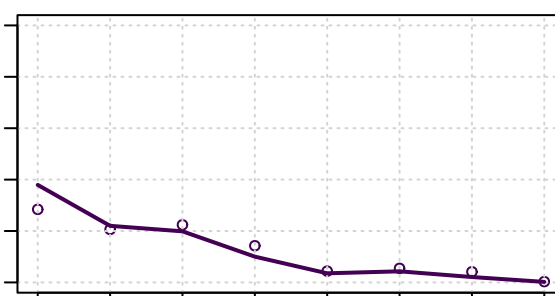
Year = 2016



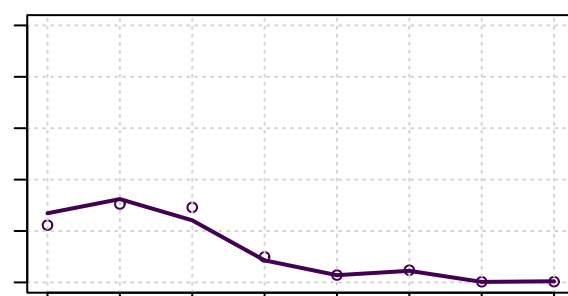
Year = 2007



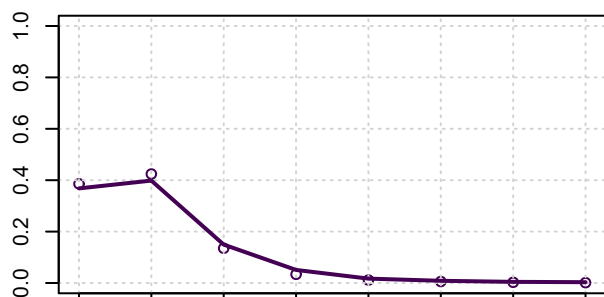
Year = 2012



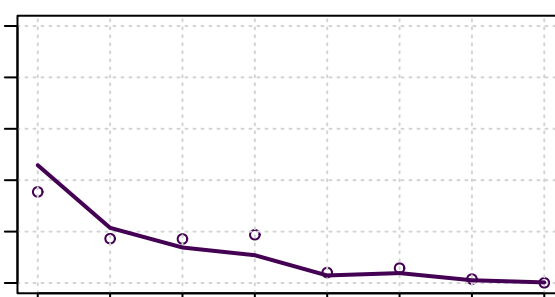
Year = 2017



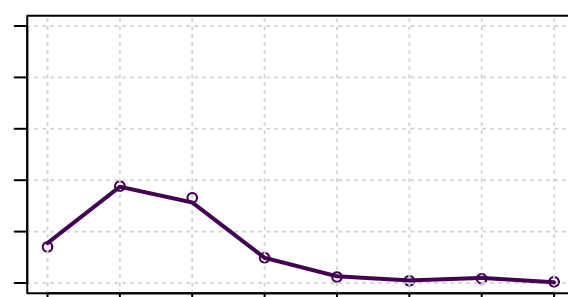
Year = 2008



Year = 2013



Year = 2018

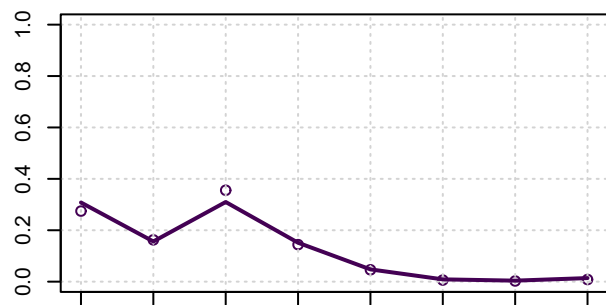


Age

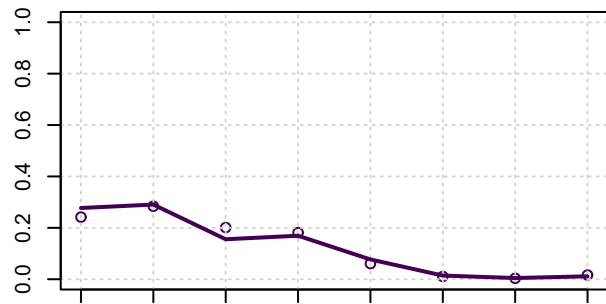
Proportion

# South\_REC CPA in South

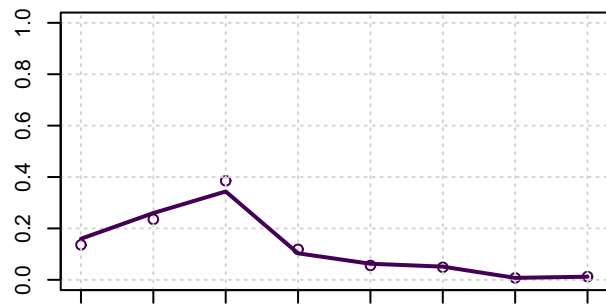
Year = 2019



Year = 2020

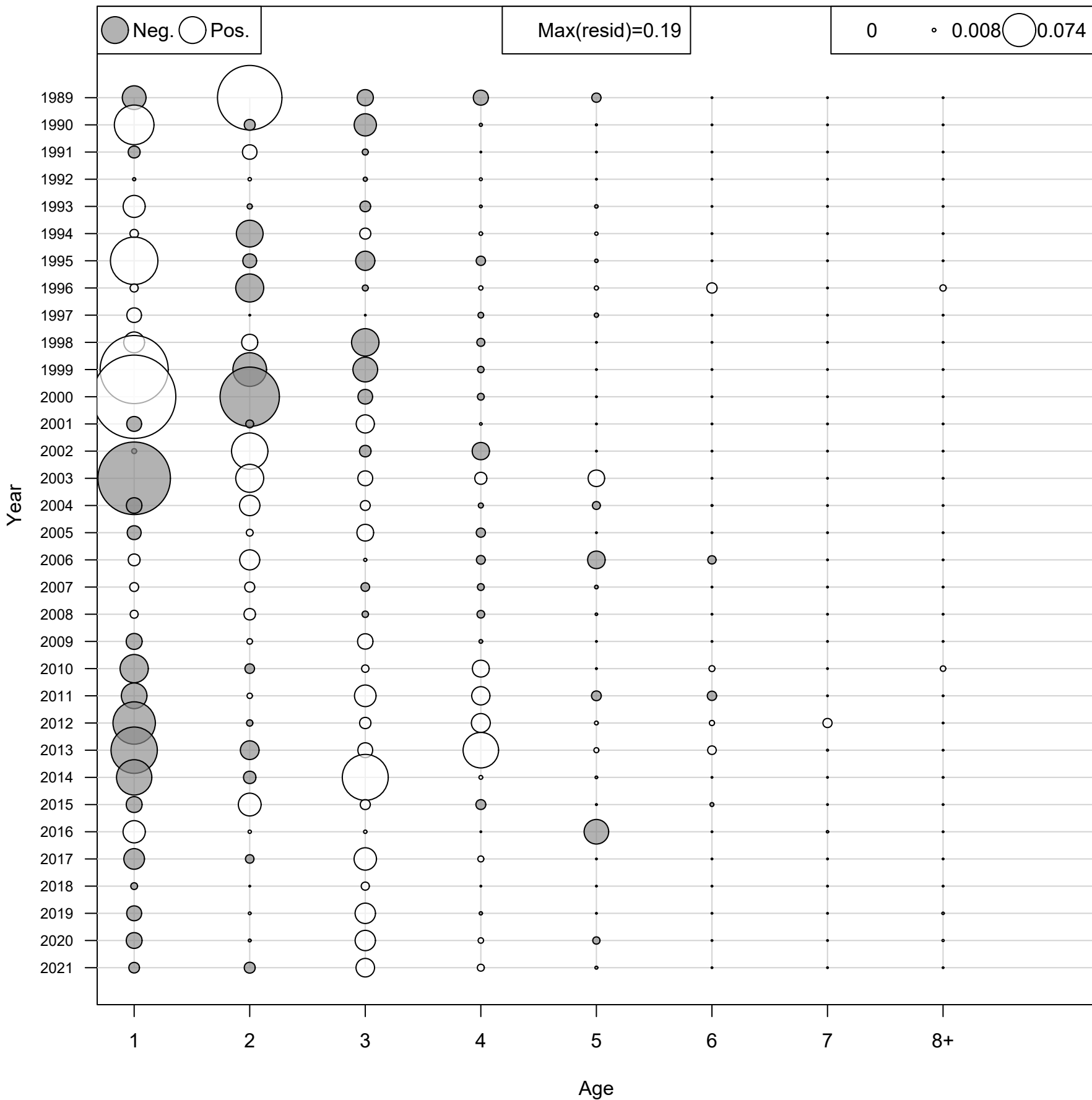


Year = 2021

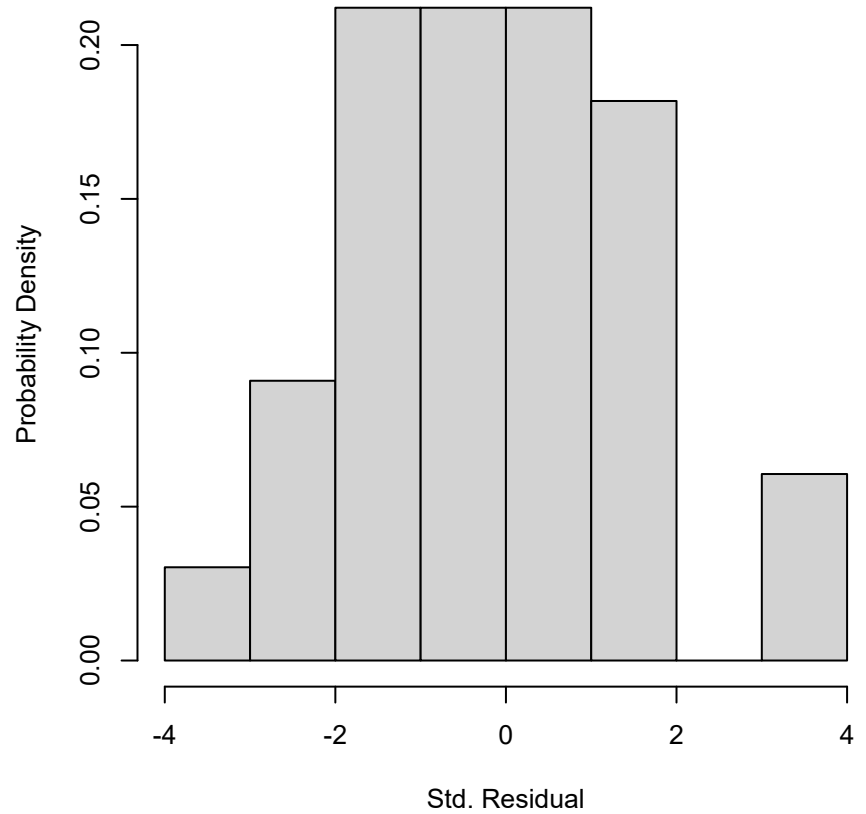
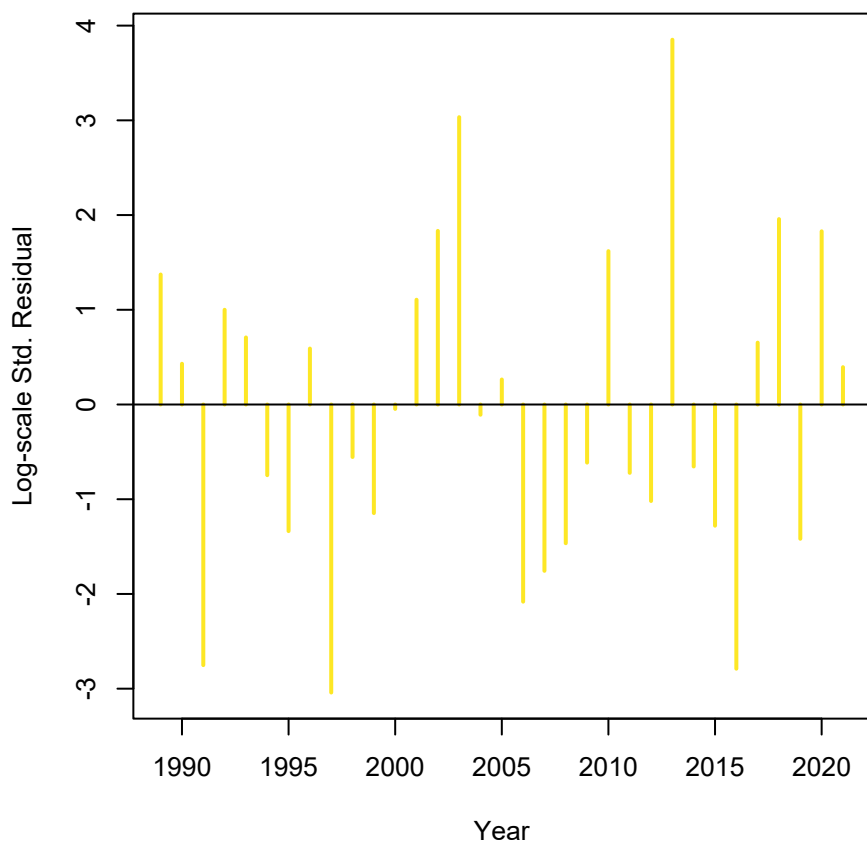
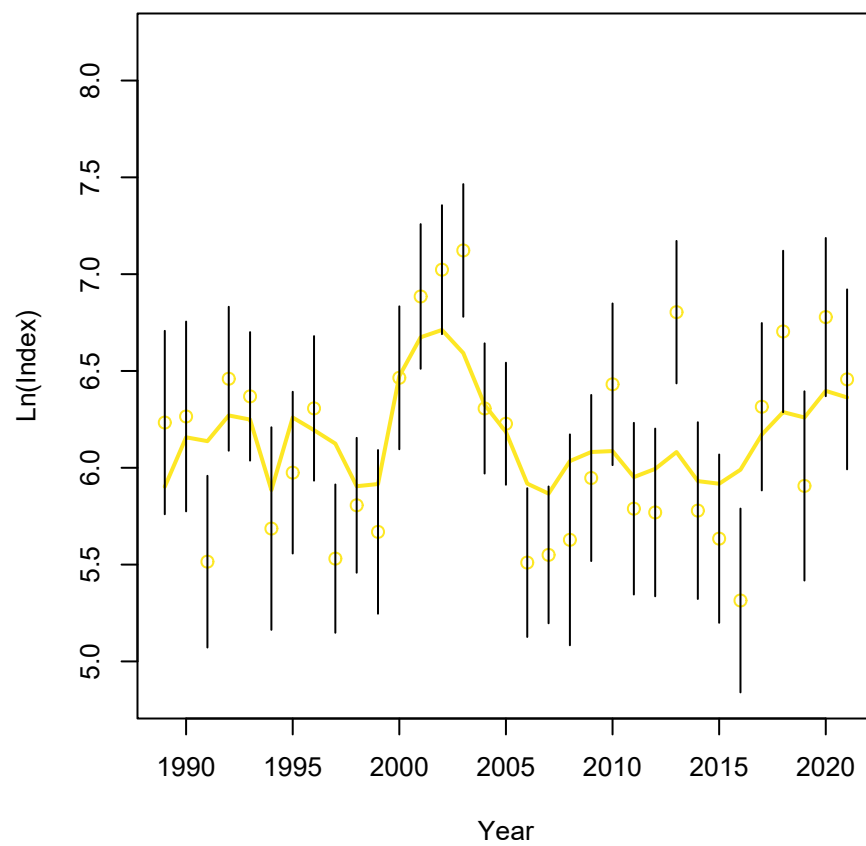


Age

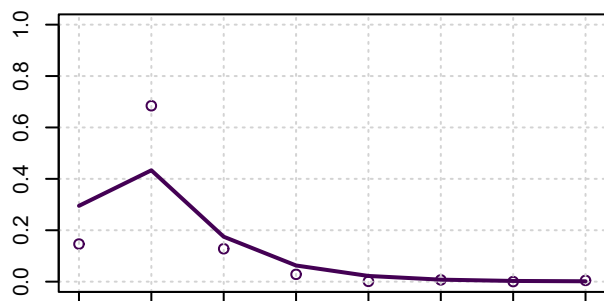
# Age Comp Residuals (Observed-Predicted) for South\_REC CPA



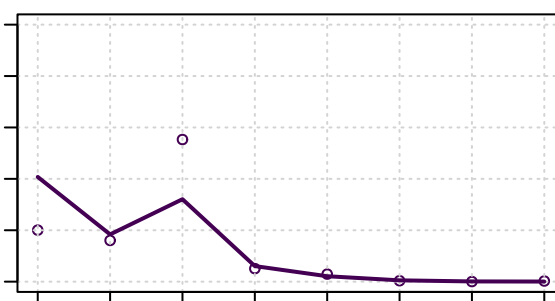
# South\_VAST Spring in South



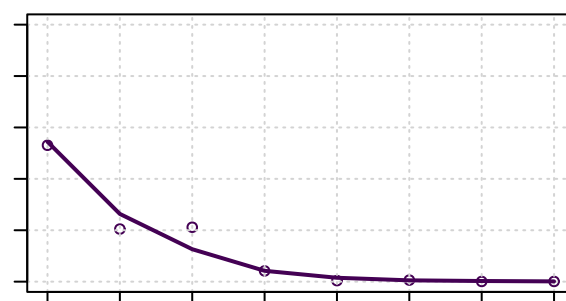
**Year = 1989**



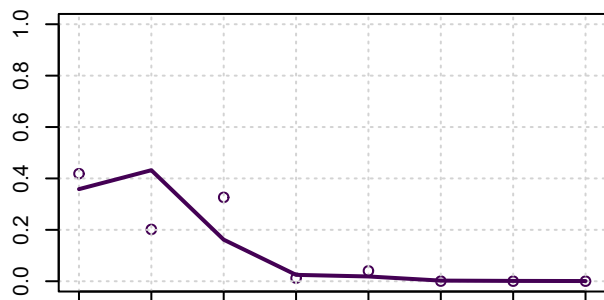
**South\_VAST Spring in South**  
**Year = 1994**



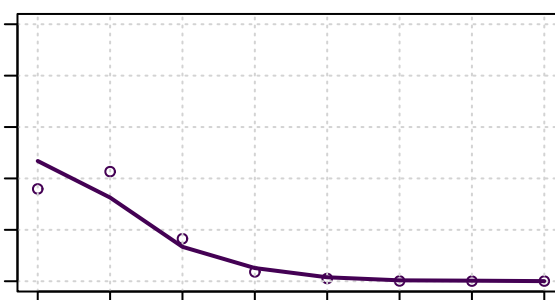
**Year = 1999**



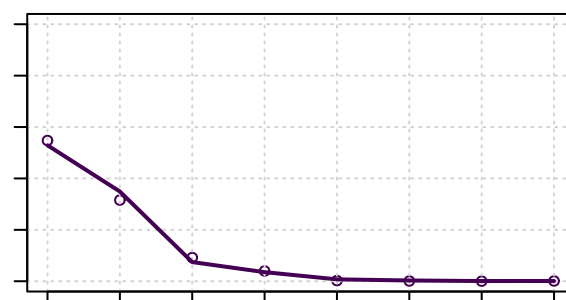
**Year = 1990**



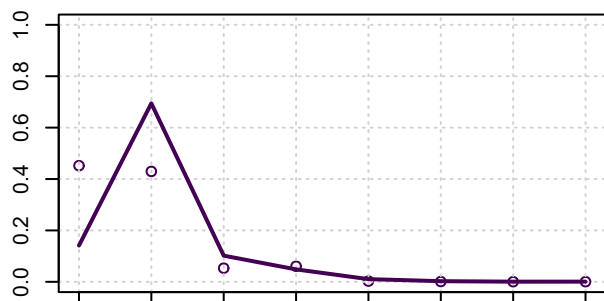
**Year = 1995**



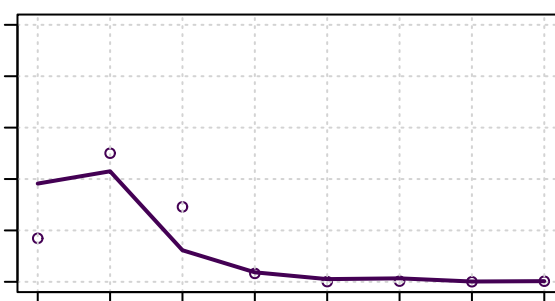
**Year = 2000**



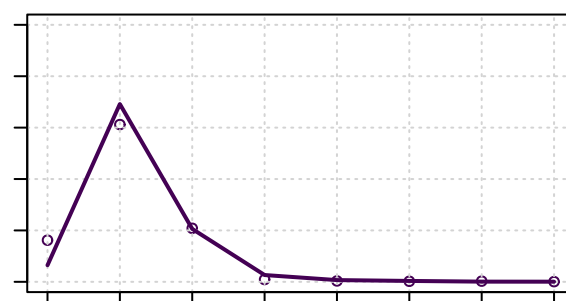
**Year = 1991**



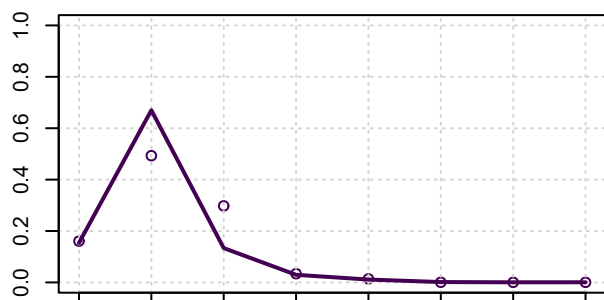
**Year = 1996**



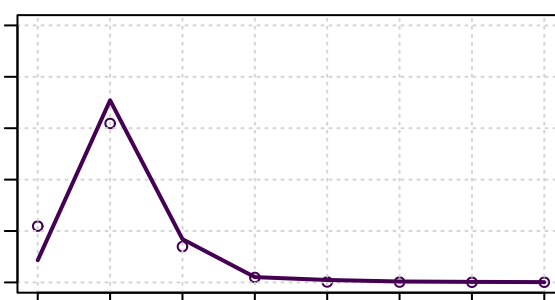
**Year = 2001**



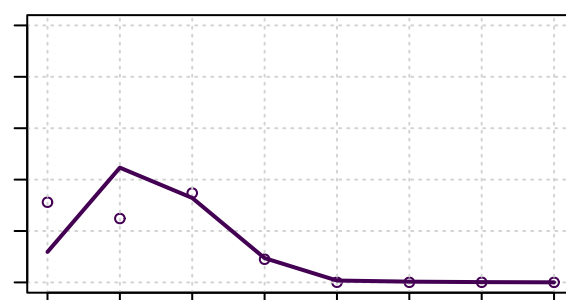
**Year = 1992**



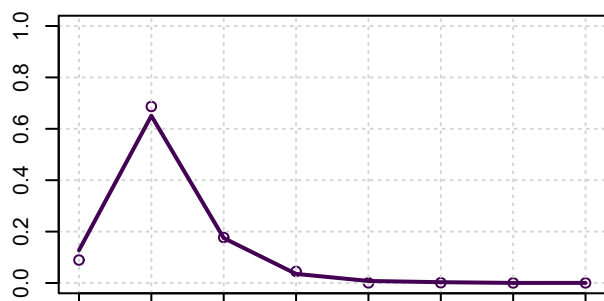
**Year = 1997**



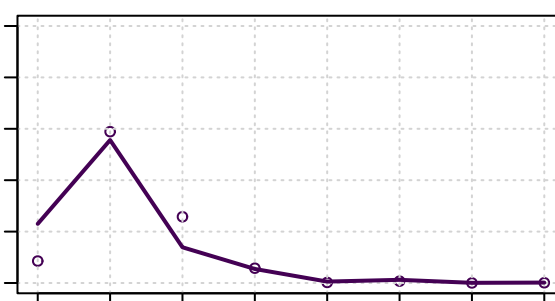
**Year = 2002**



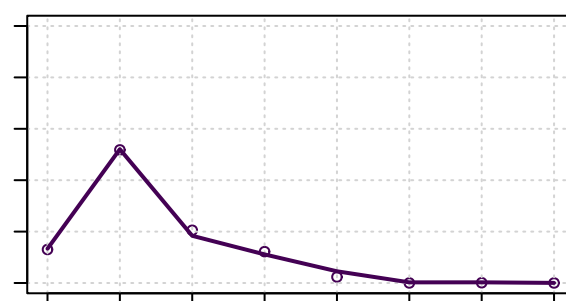
**Year = 1993**



**Year = 1998**



**Year = 2003**

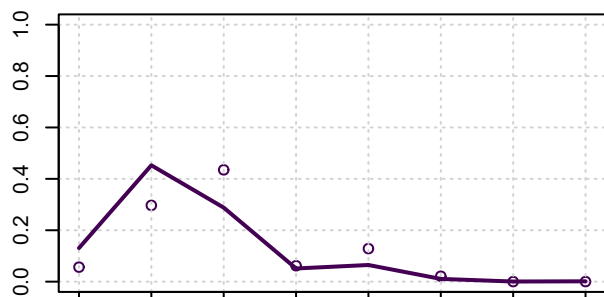


Proportion

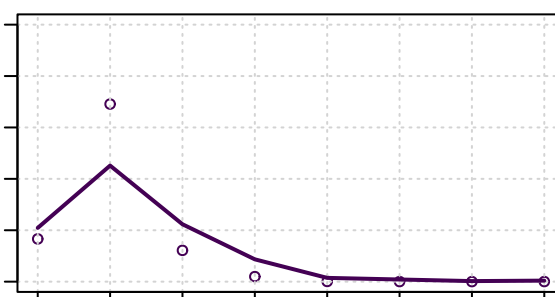
Age

# South\_VAST Spring in South

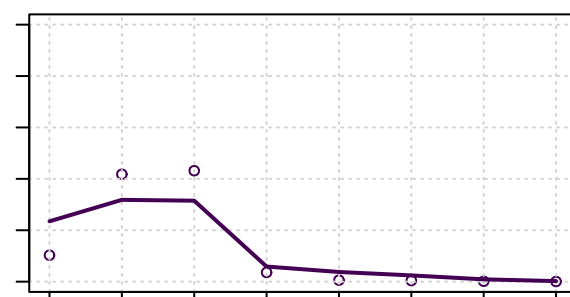
Year = 2004



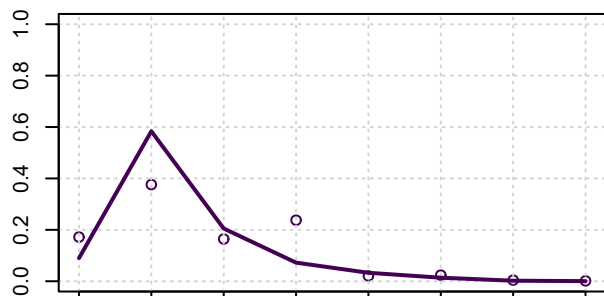
Year = 2009



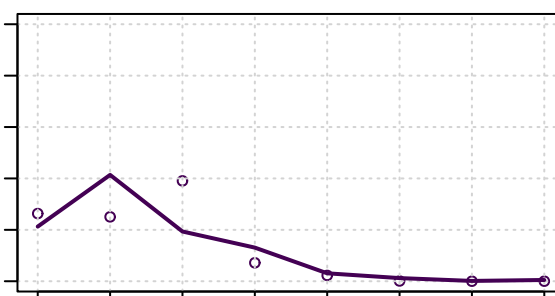
Year = 2014



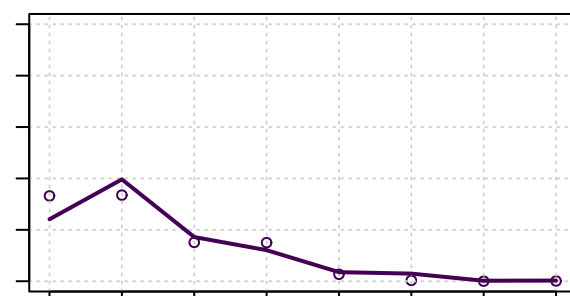
Year = 2005



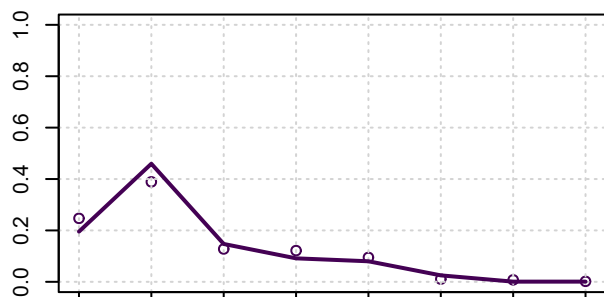
Year = 2010



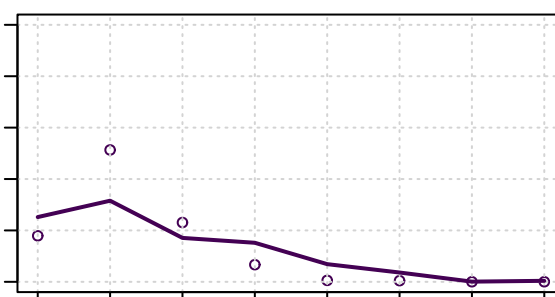
Year = 2015



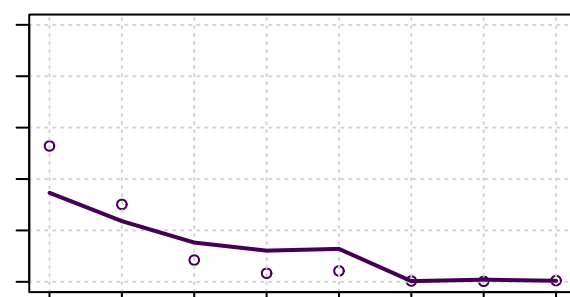
Year = 2006



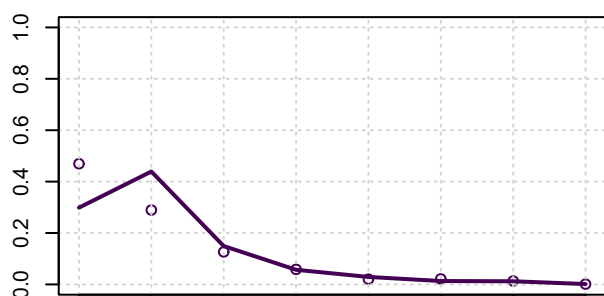
Year = 2011



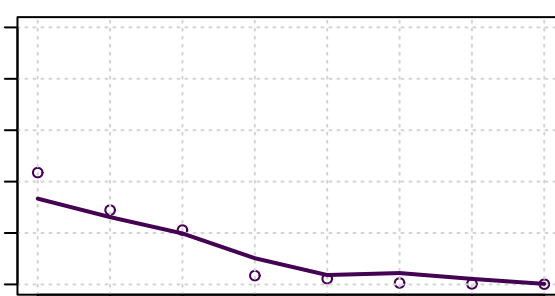
Year = 2016



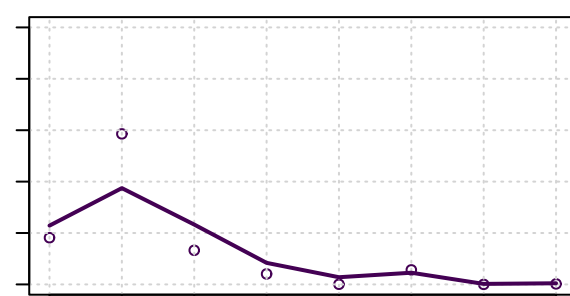
Year = 2007



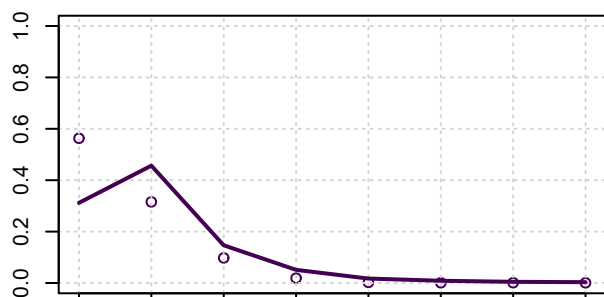
Year = 2012



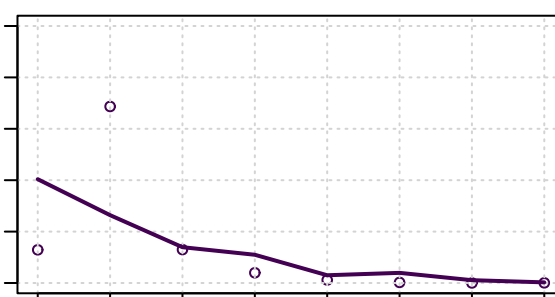
Year = 2017



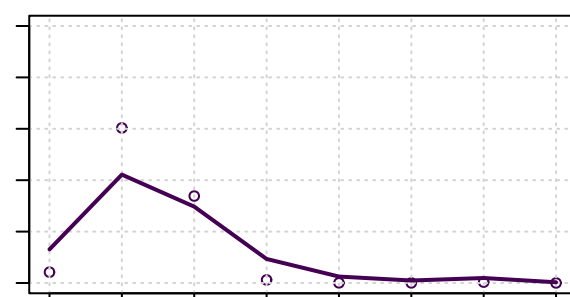
Year = 2008



Year = 2013



Year = 2018



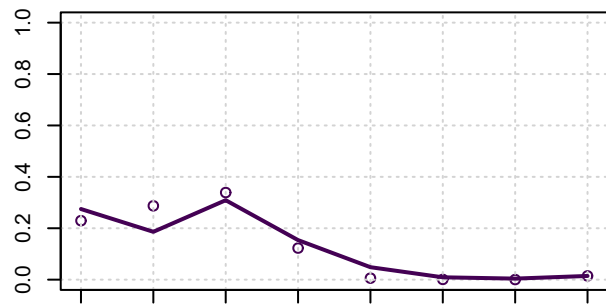
Age

Proportion

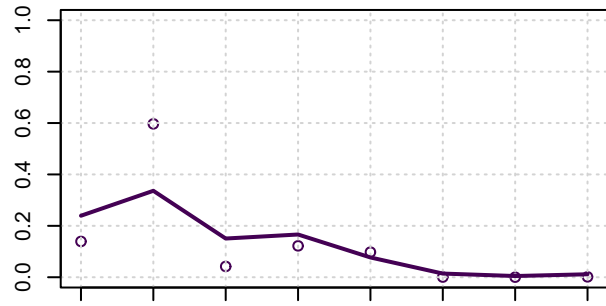


# South\_VAST Spring in South

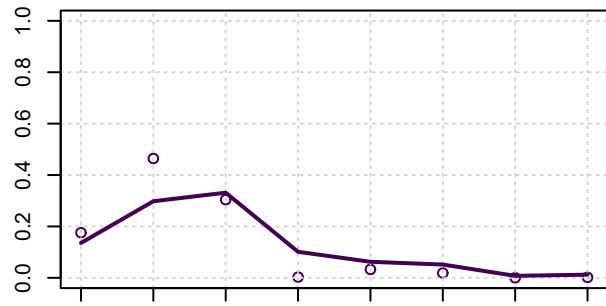
Year = 2019



Year = 2020

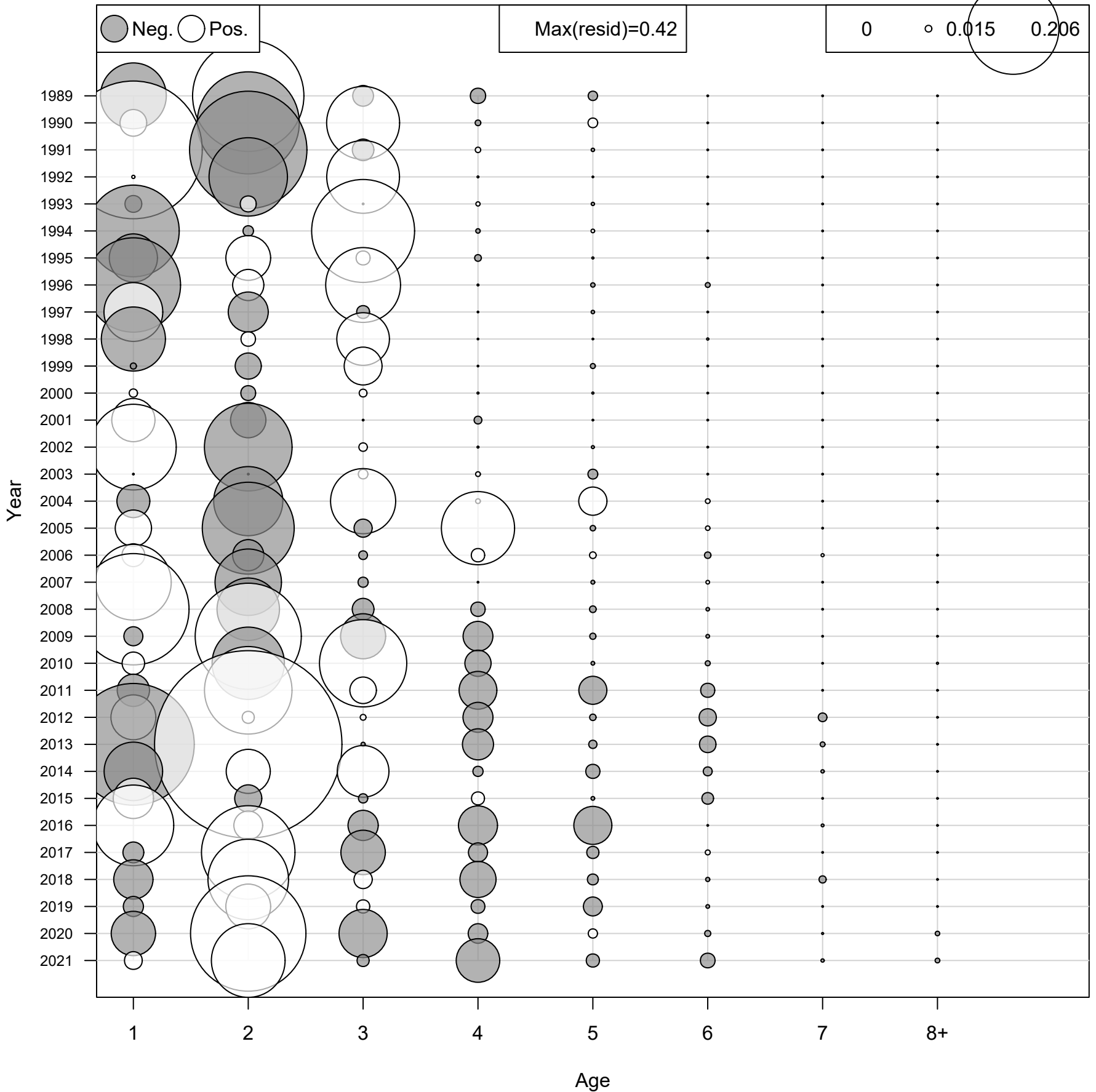


Year = 2021

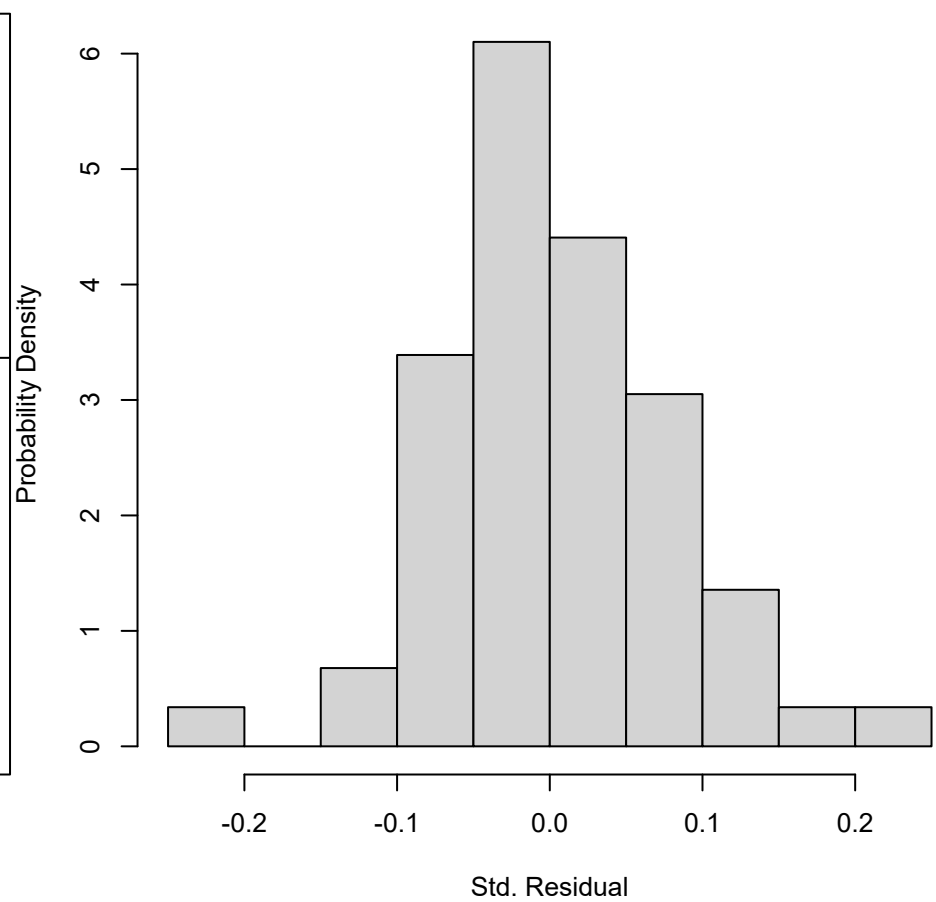
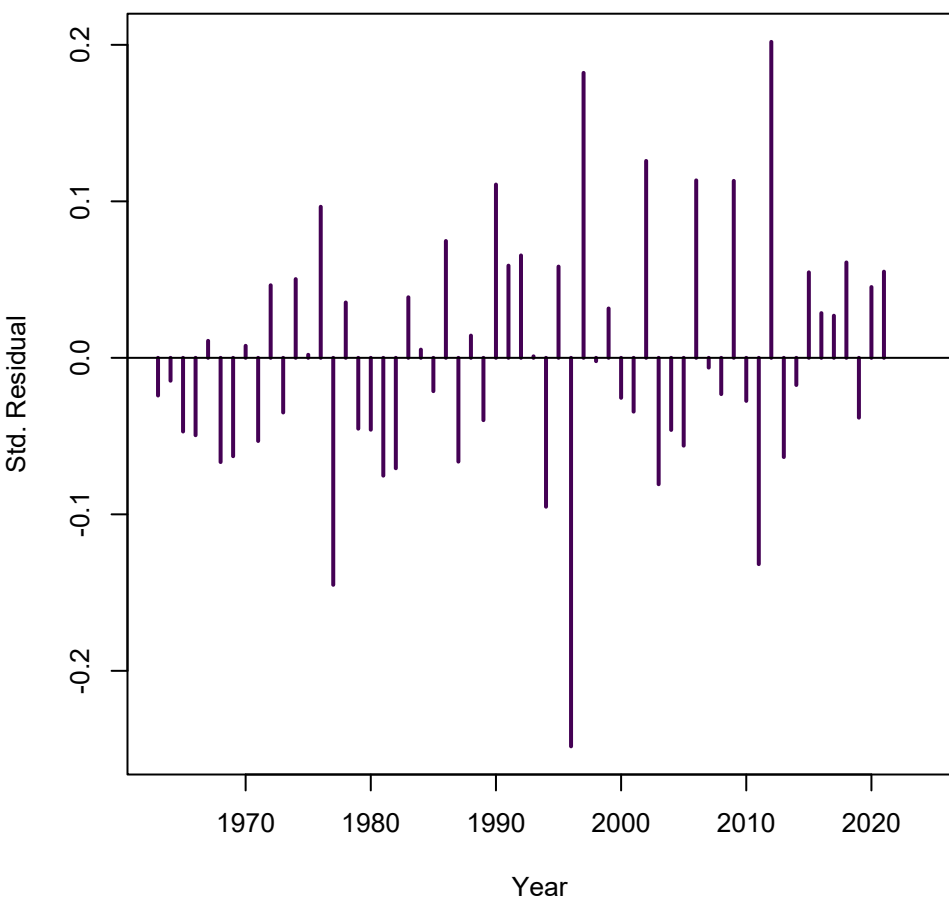
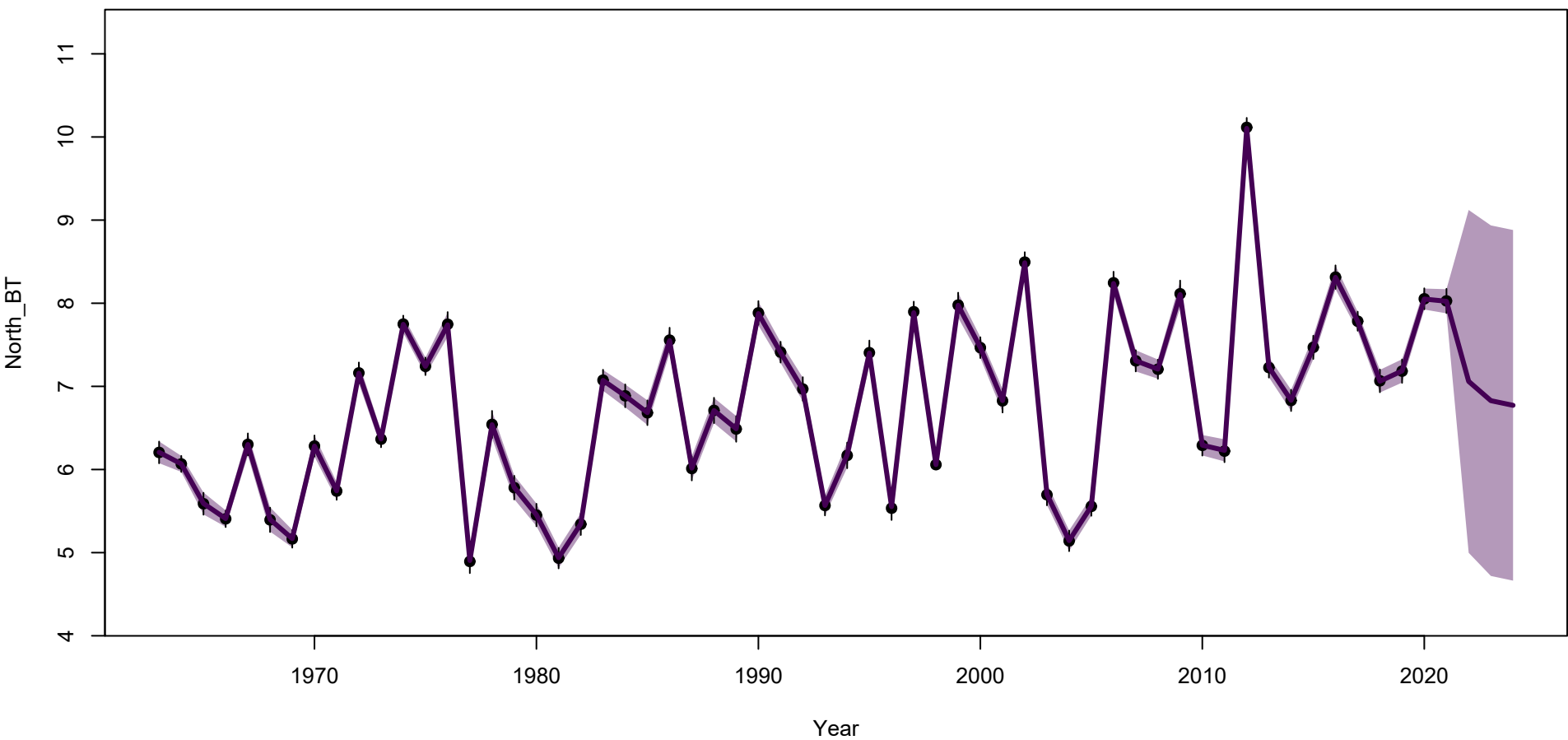


Age

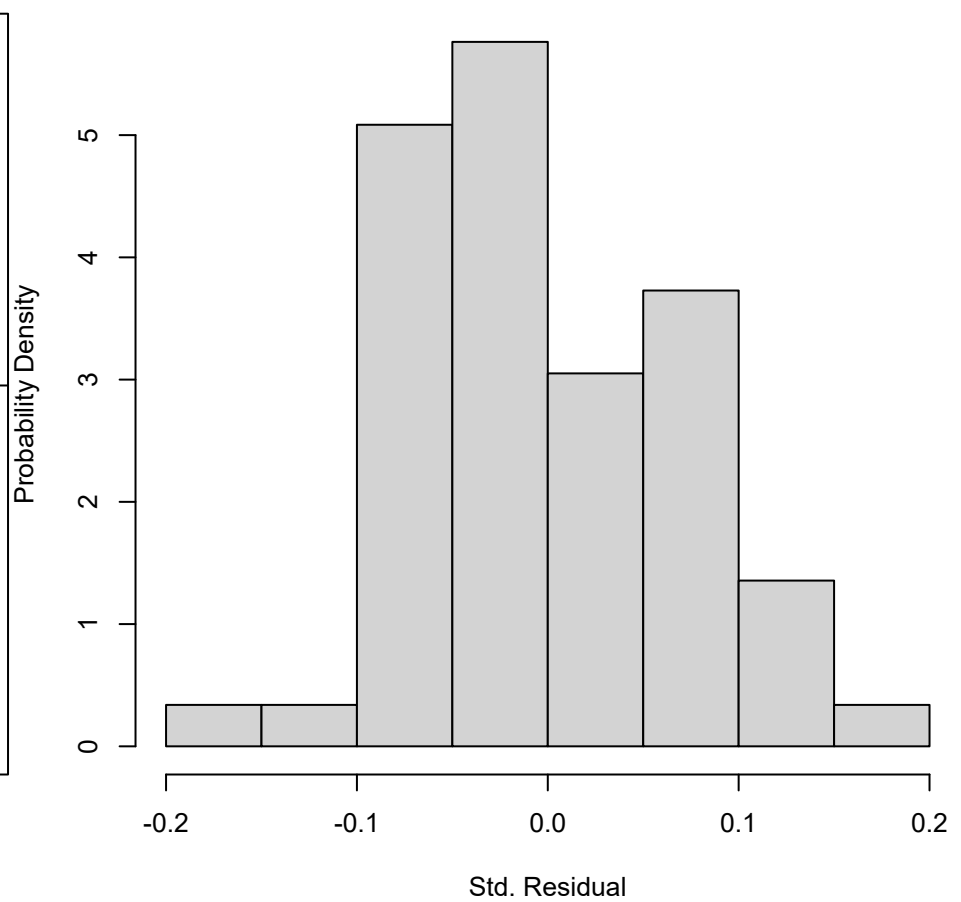
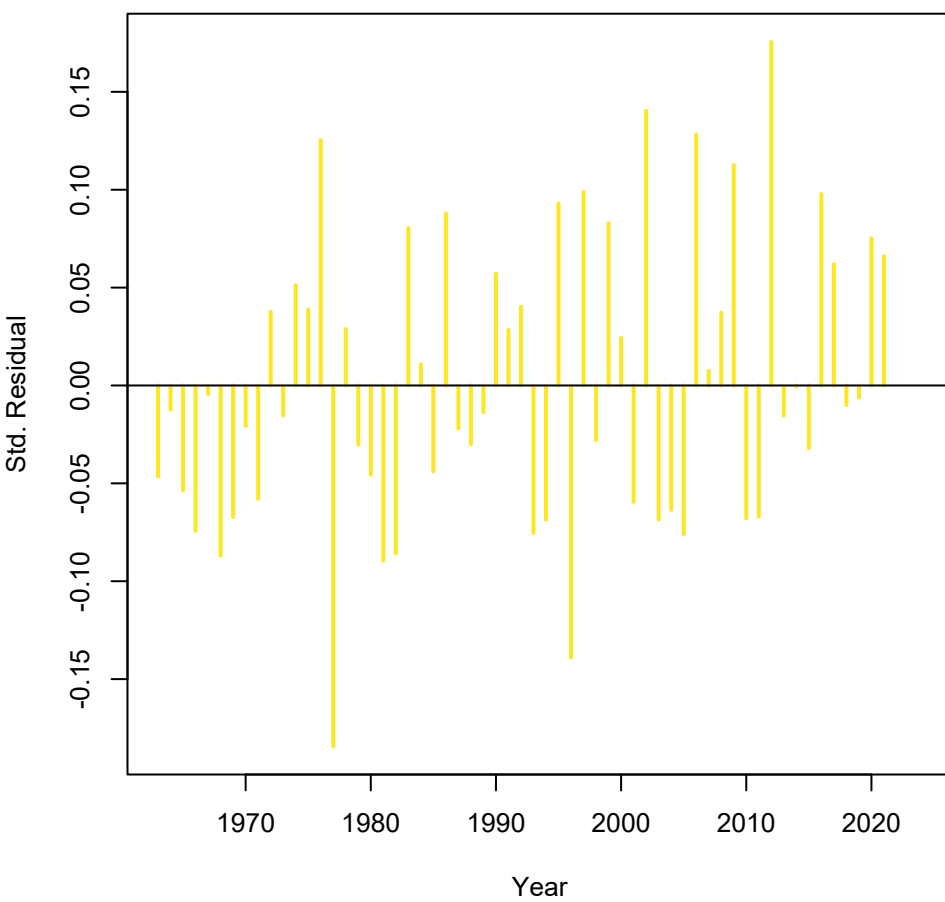
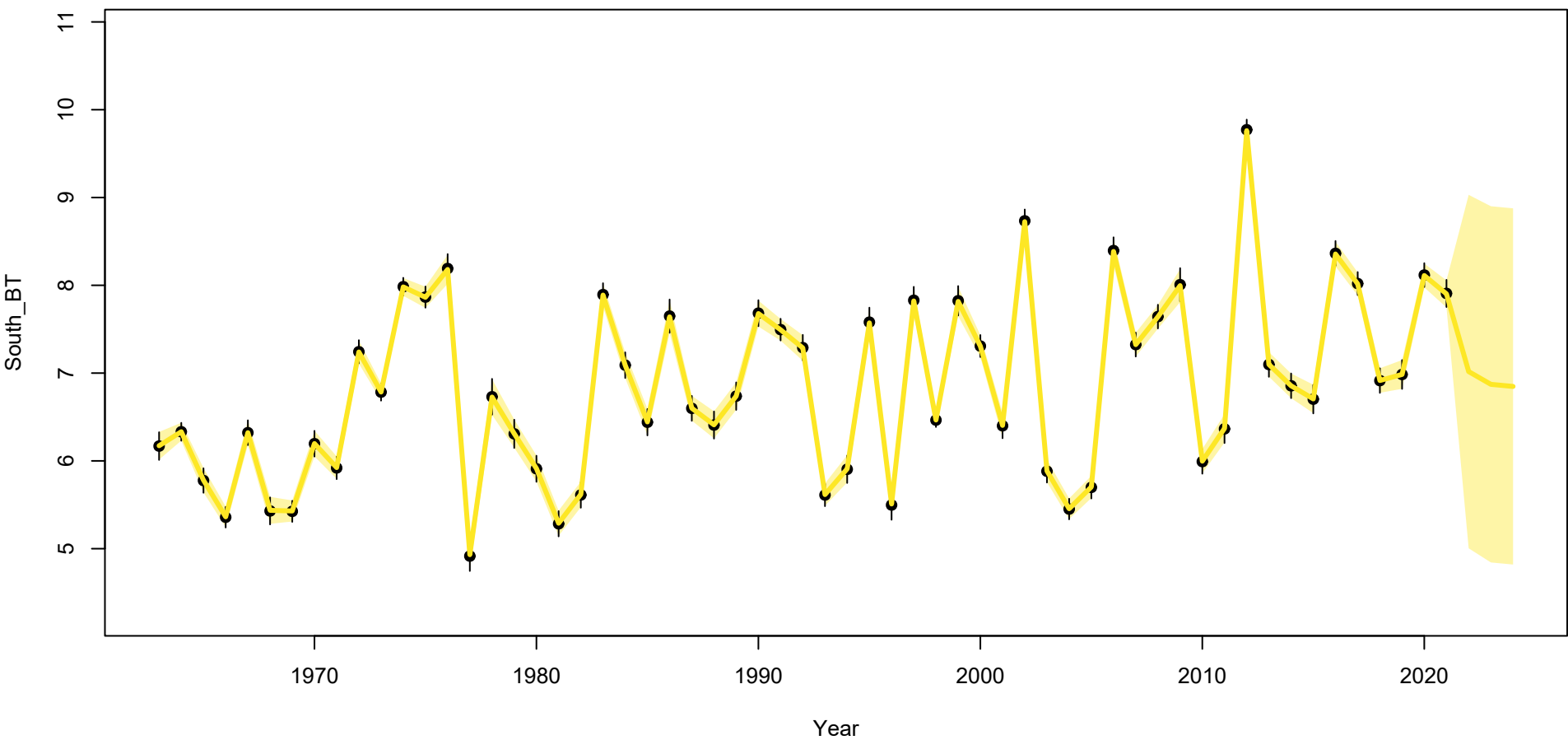
# Age Comp Residuals (Observed-Predicted) for South\_VAST Spring



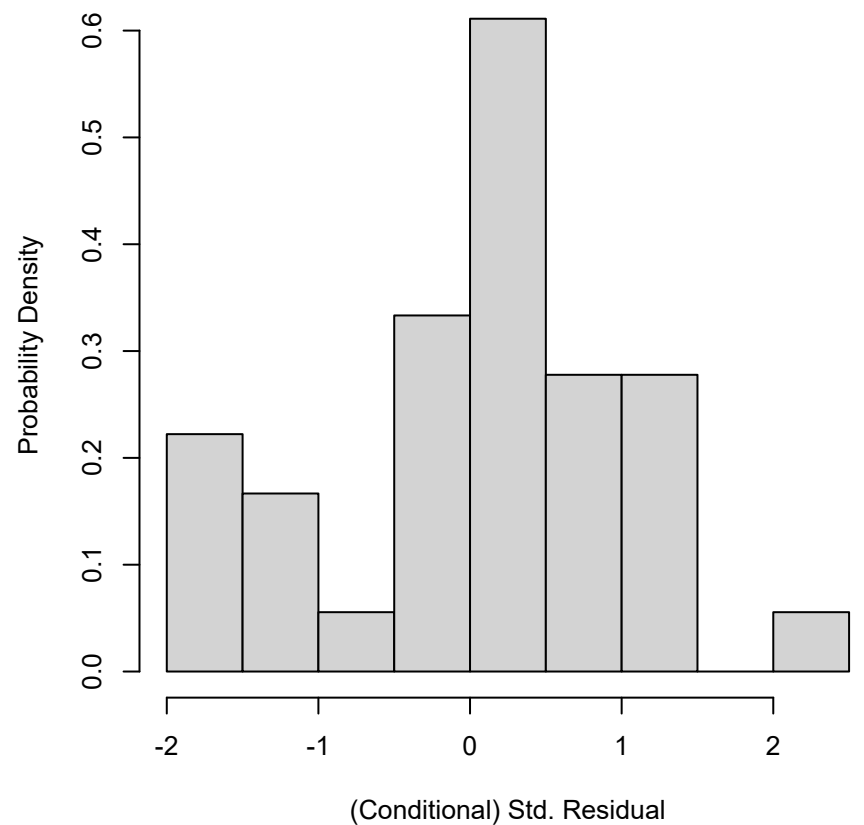
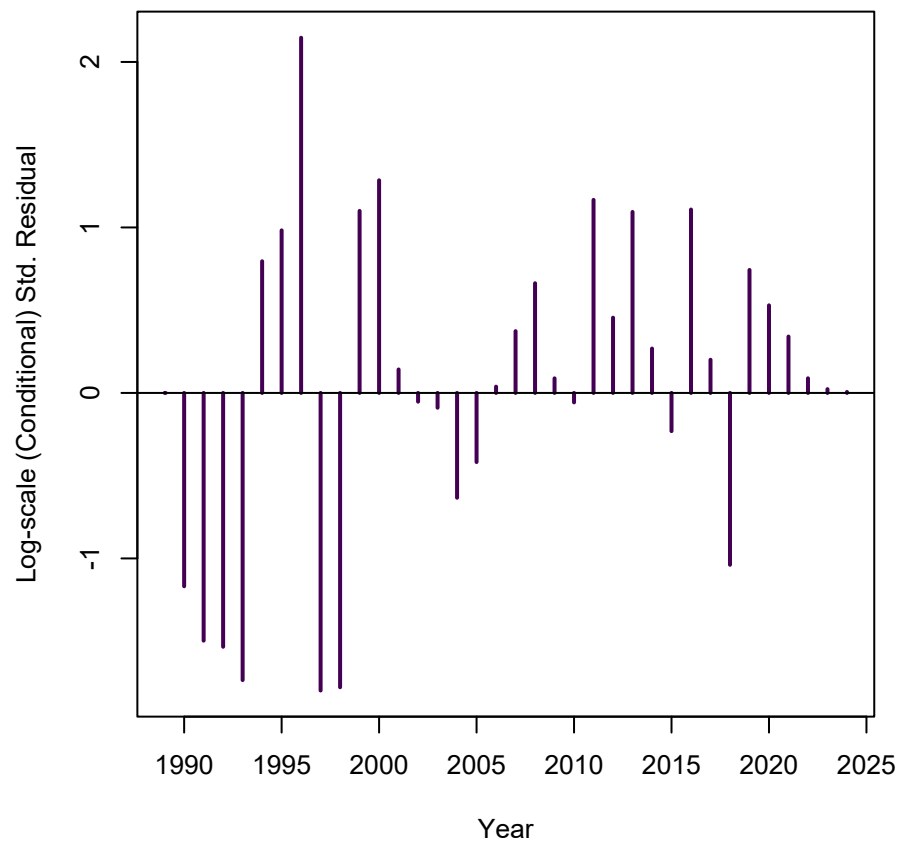
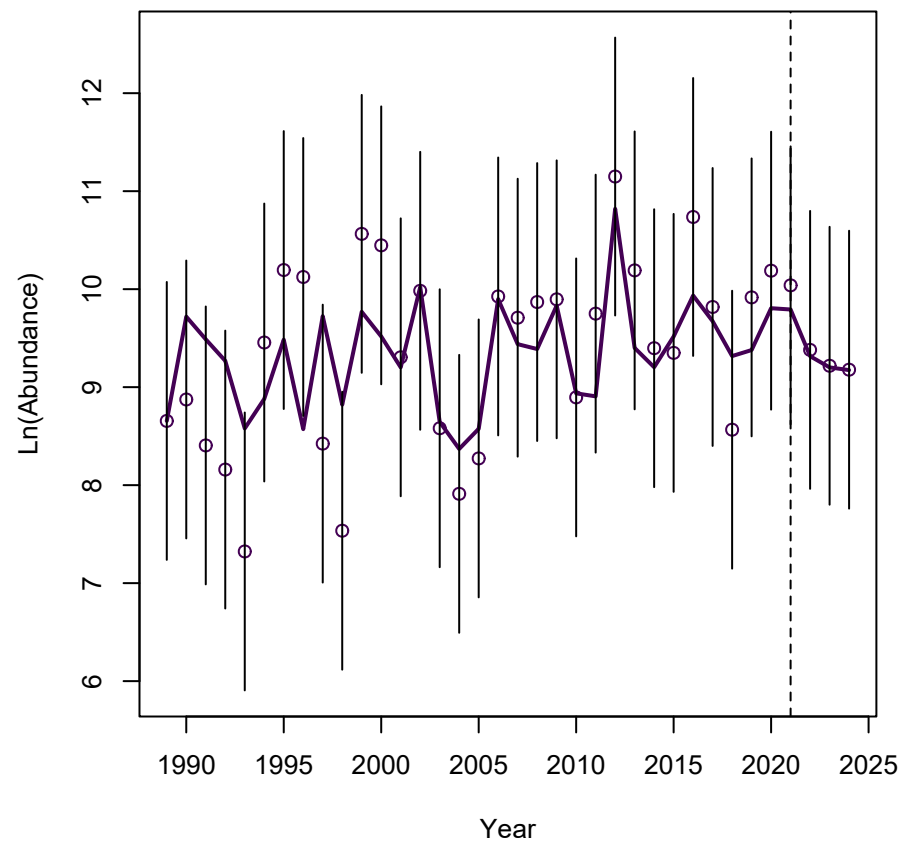
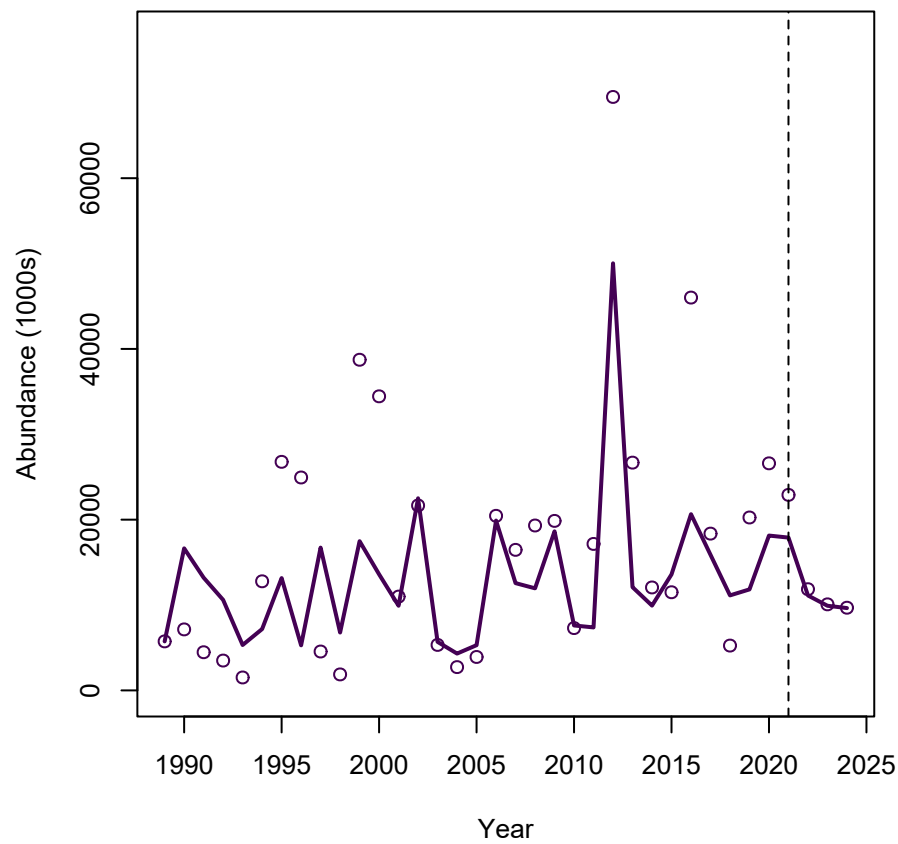
Ecov 1: North\_BT



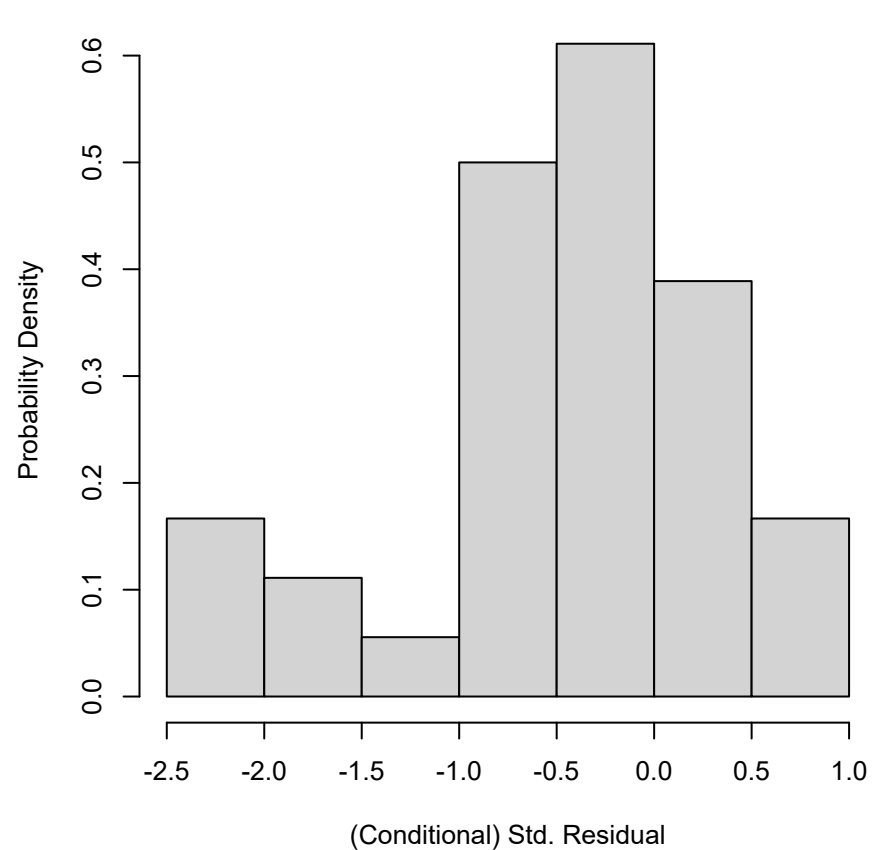
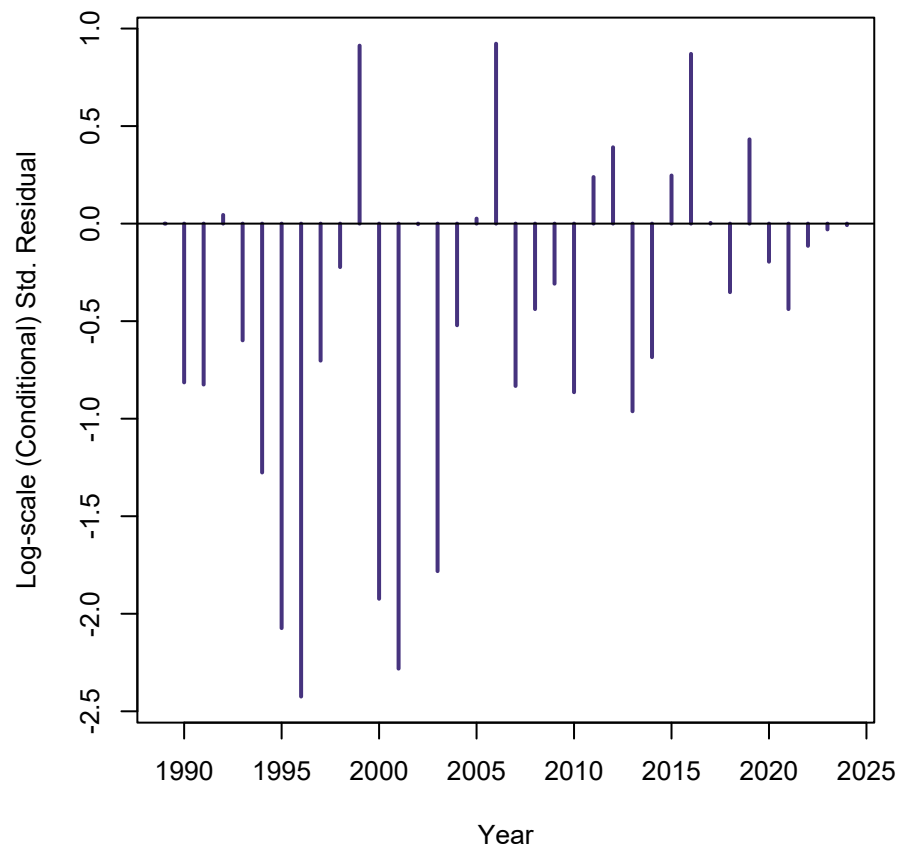
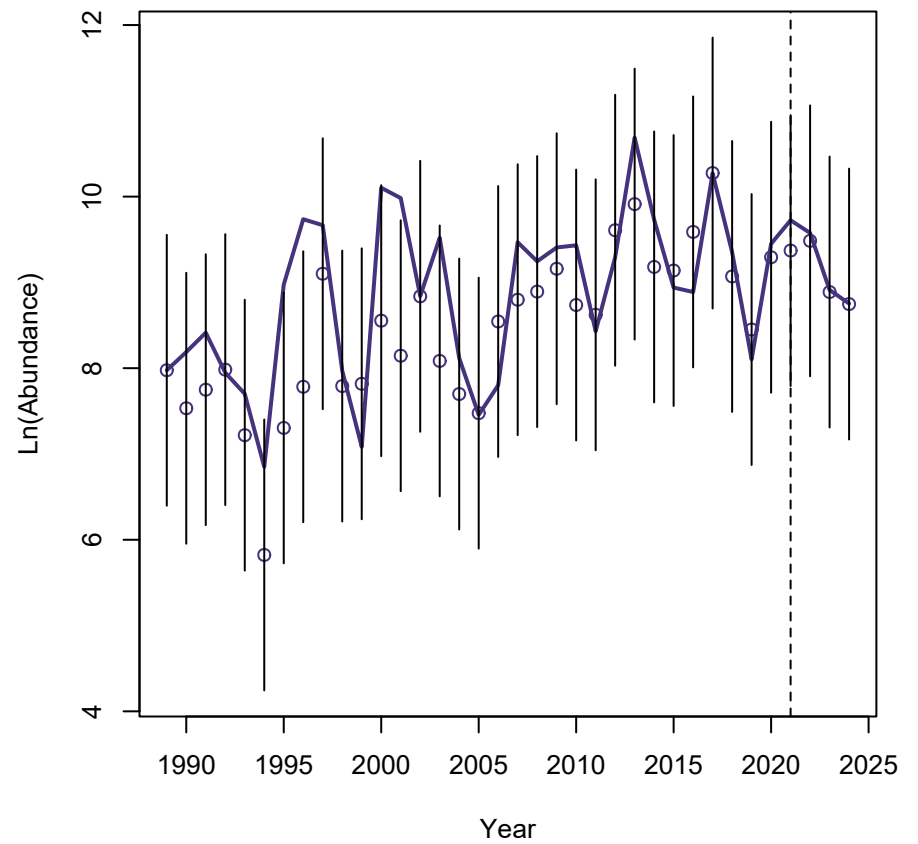
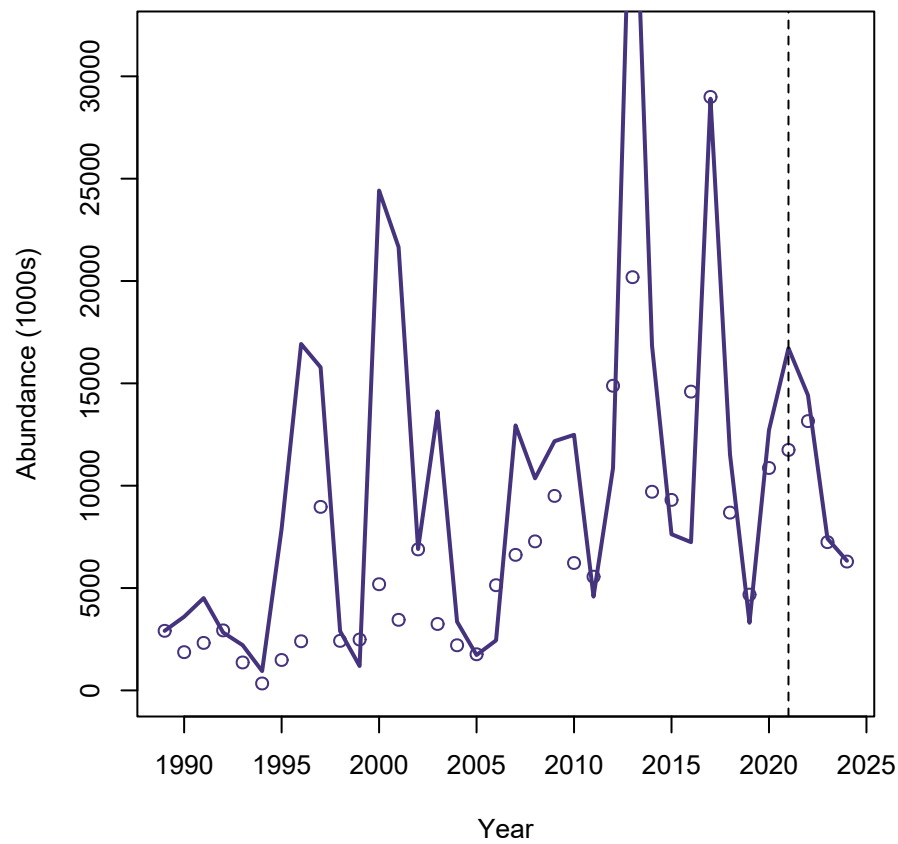
Ecov 2: South\_BT



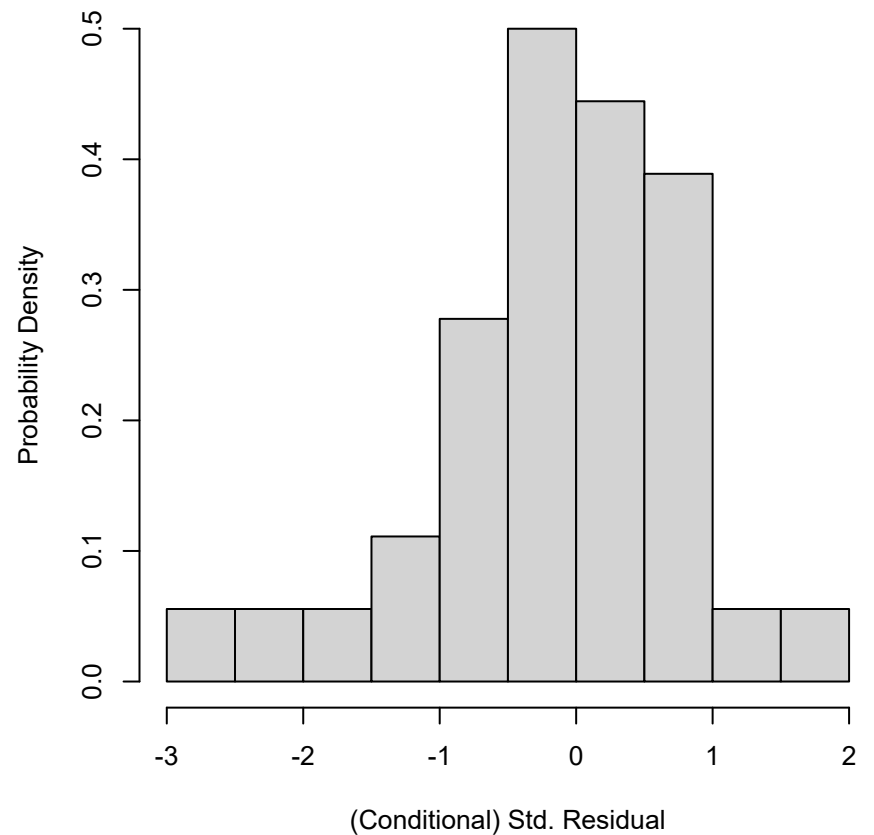
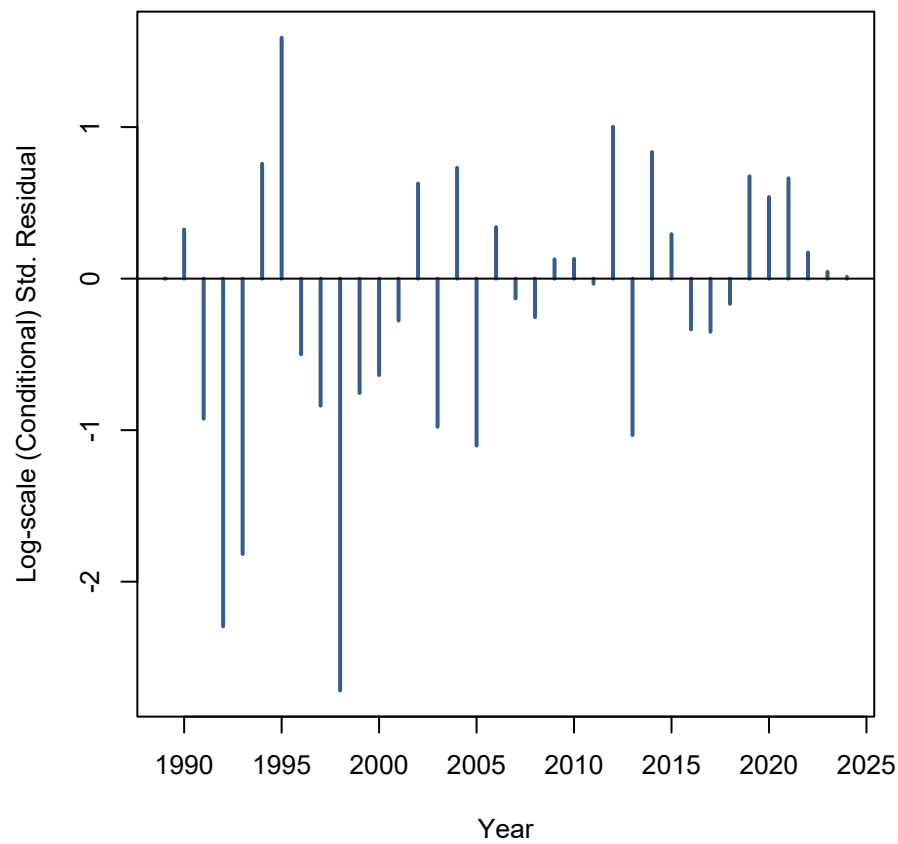
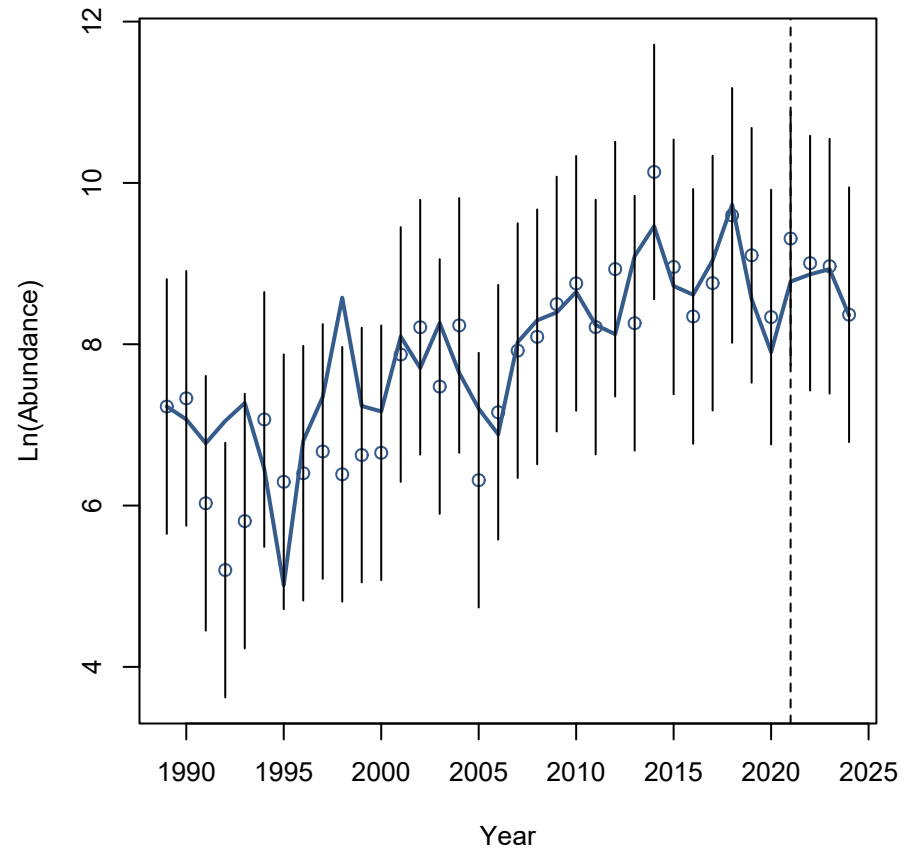
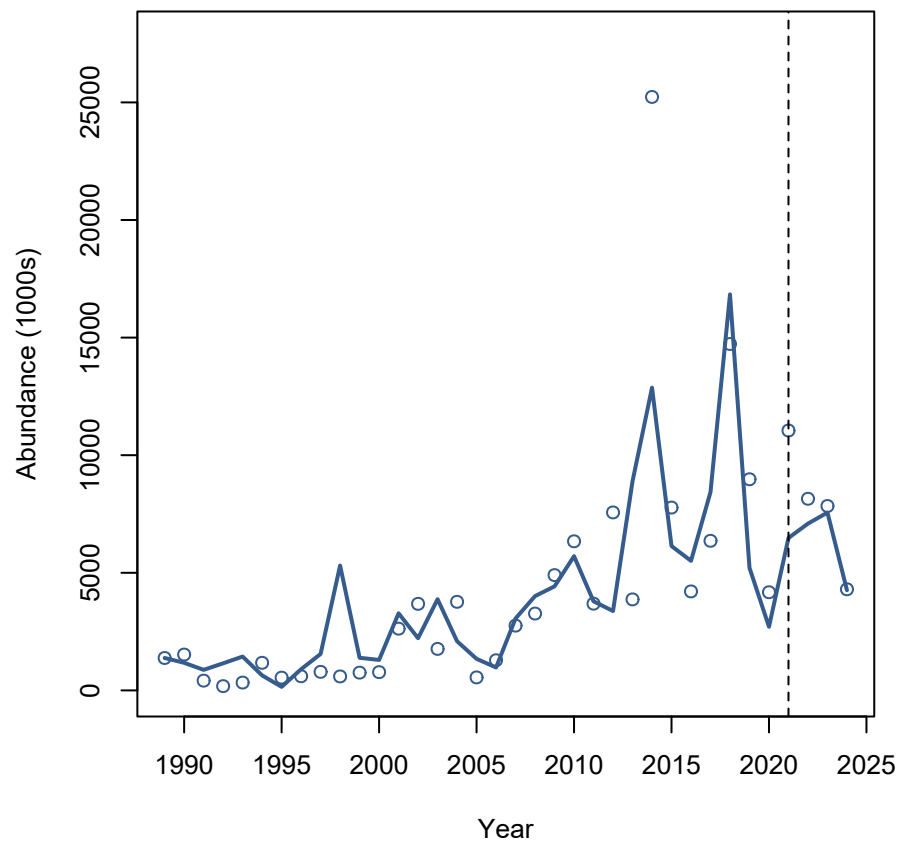
# Conditional Expected and Posterior Estimates of Age 1 Abundance



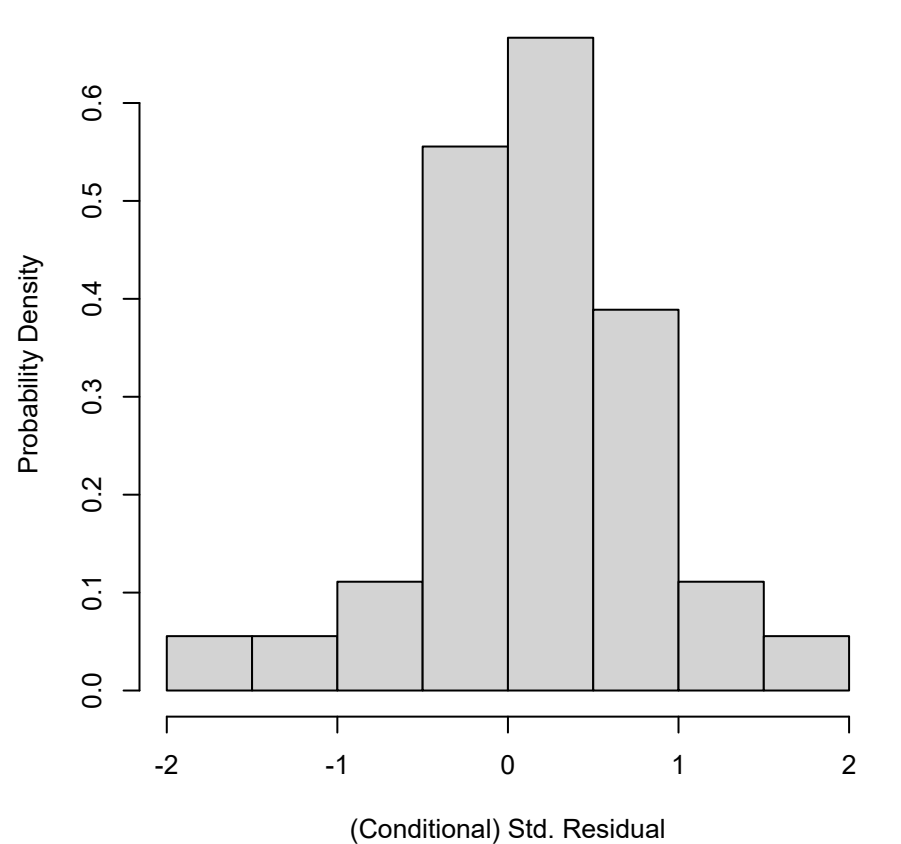
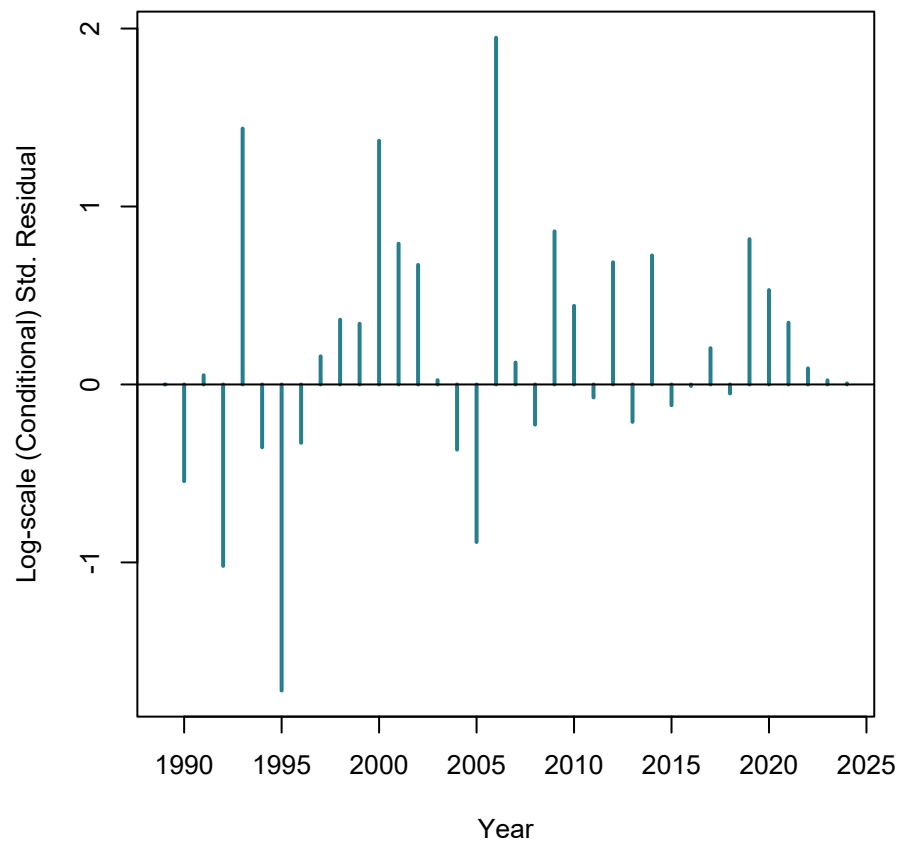
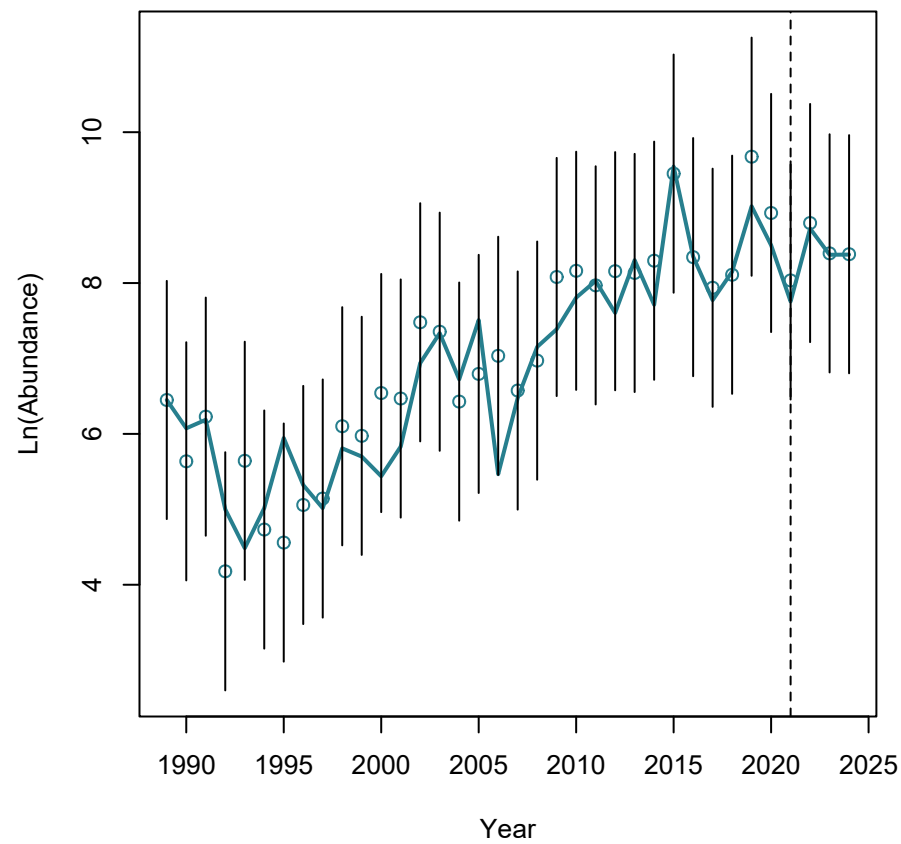
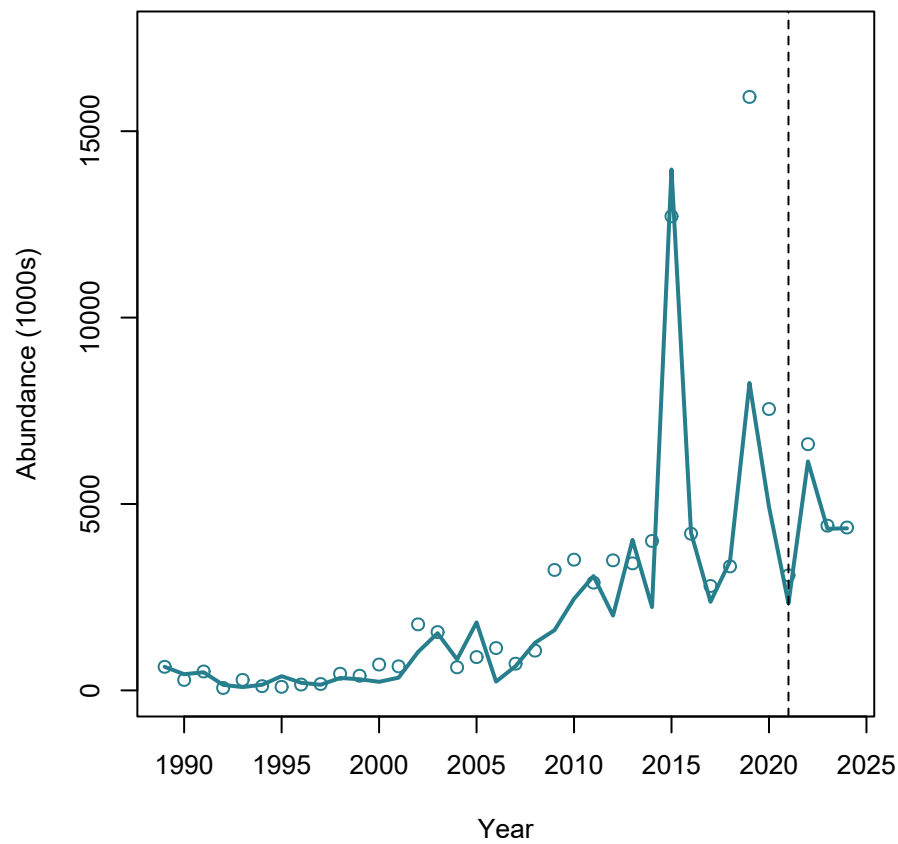
# Conditional Expected and Posterior Estimates of Age 2 Abundance



# Conditional Expected and Posterior Estimates of Age 3 Abundance

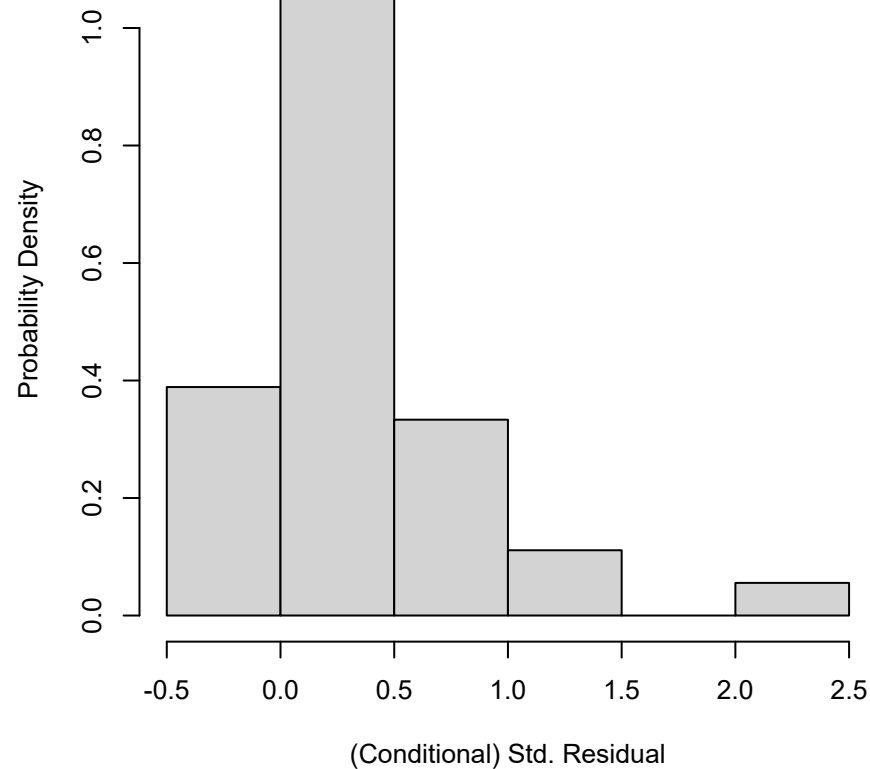
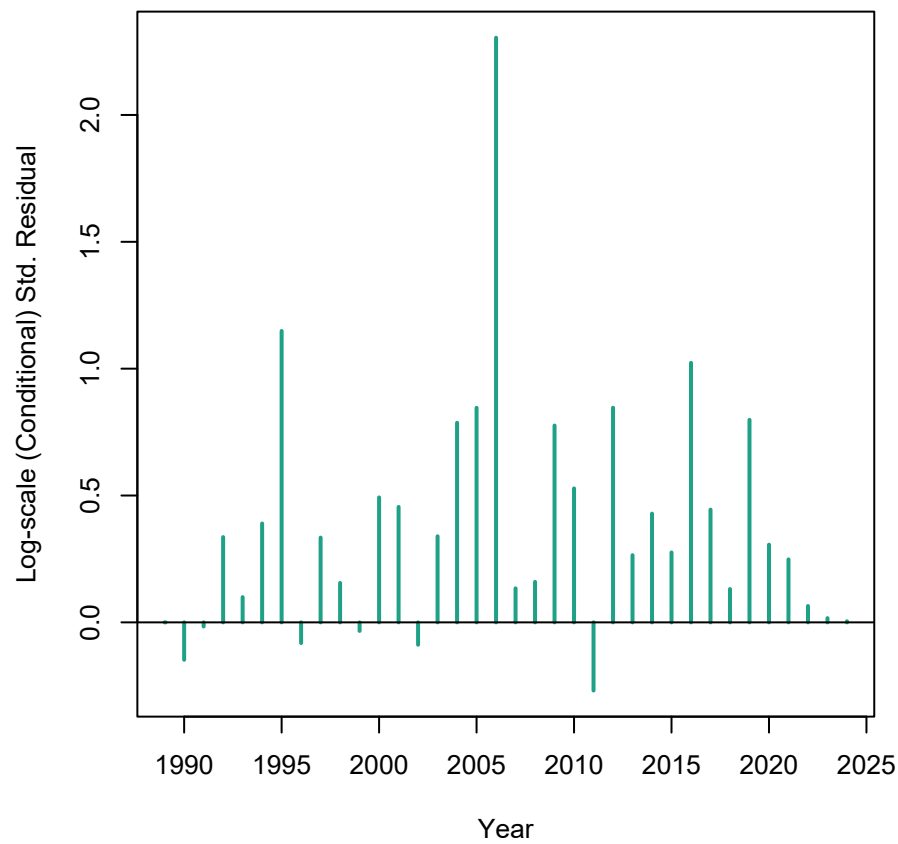
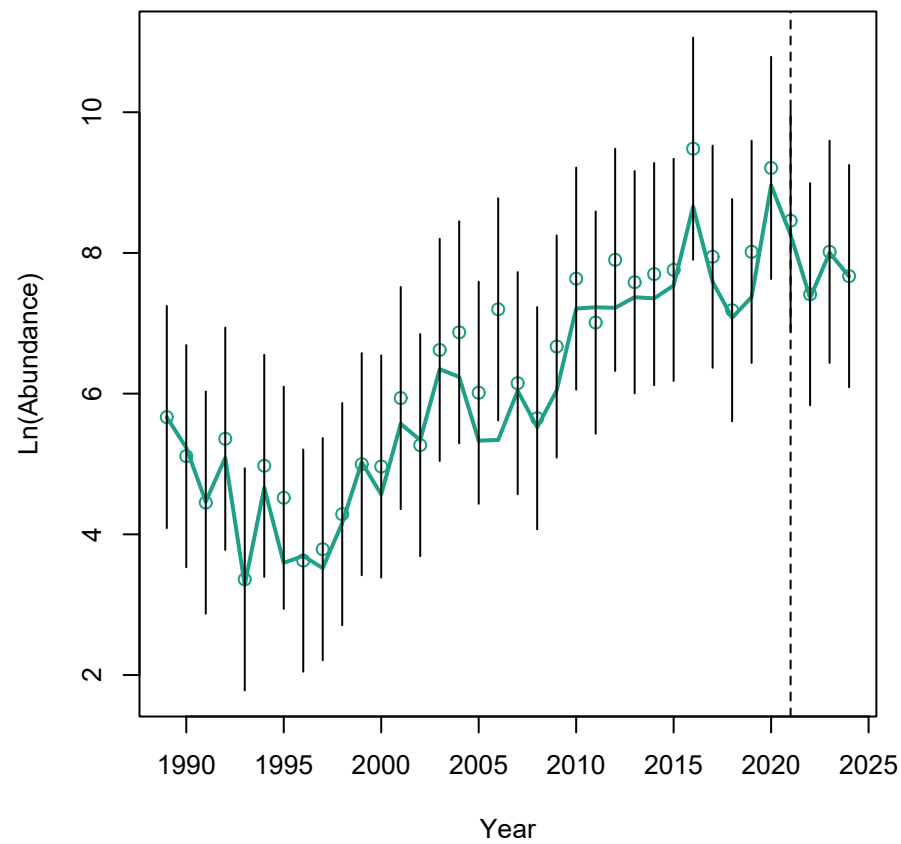
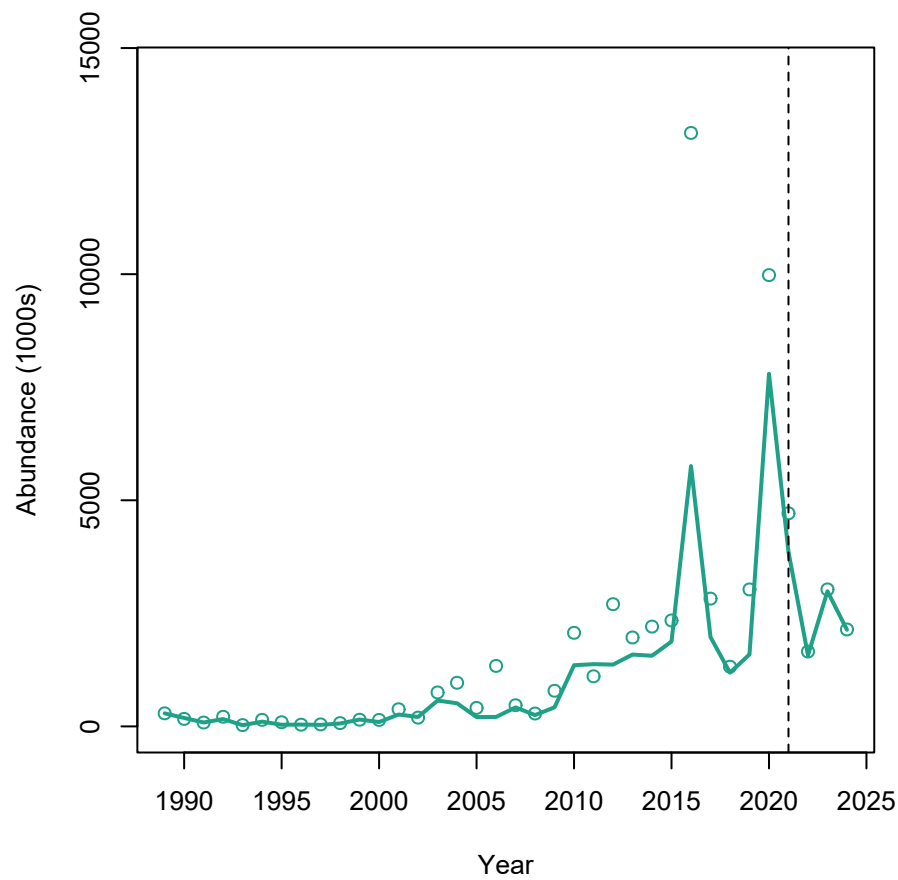


# Conditional Expected and Posterior Estimates of Age 4 Abundance

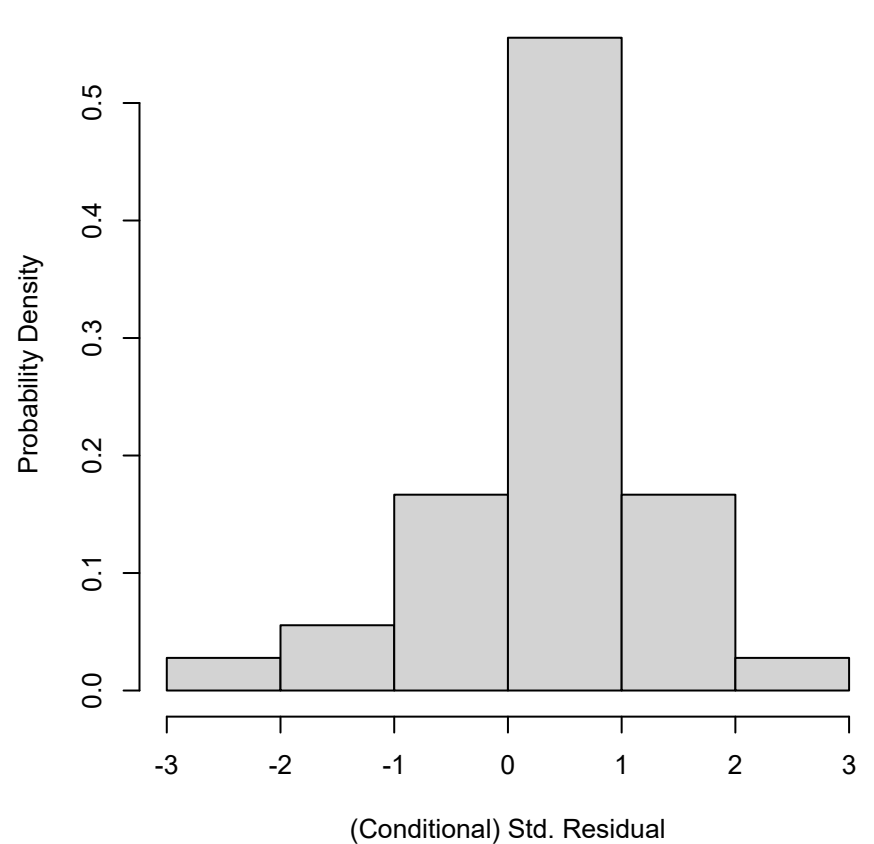
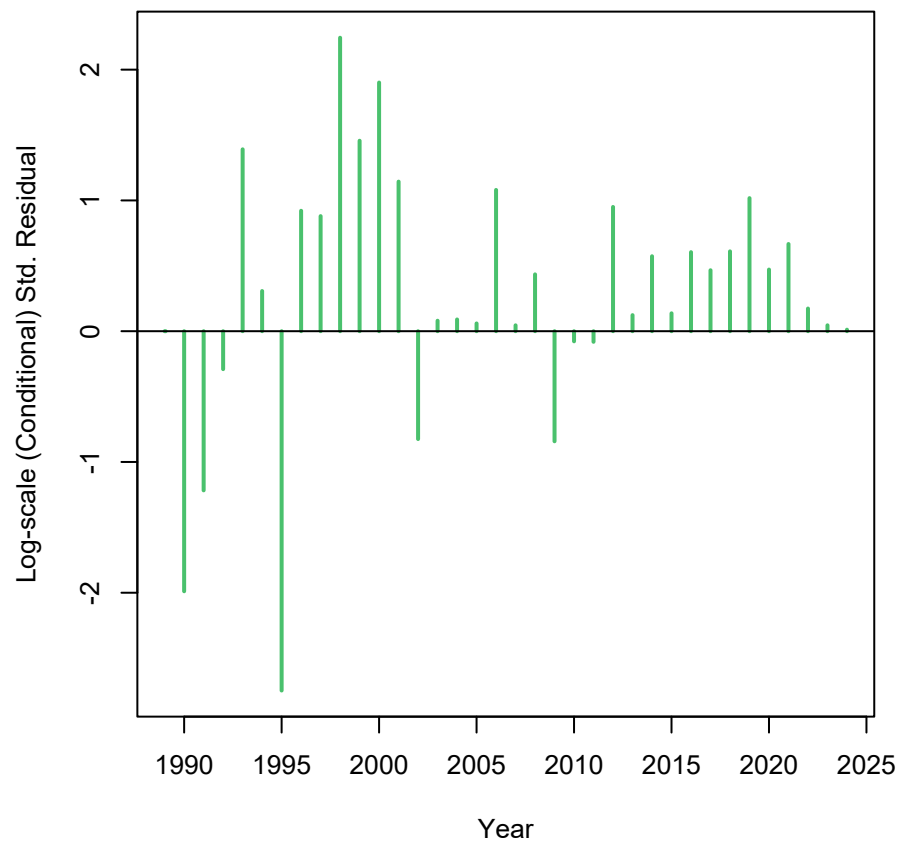
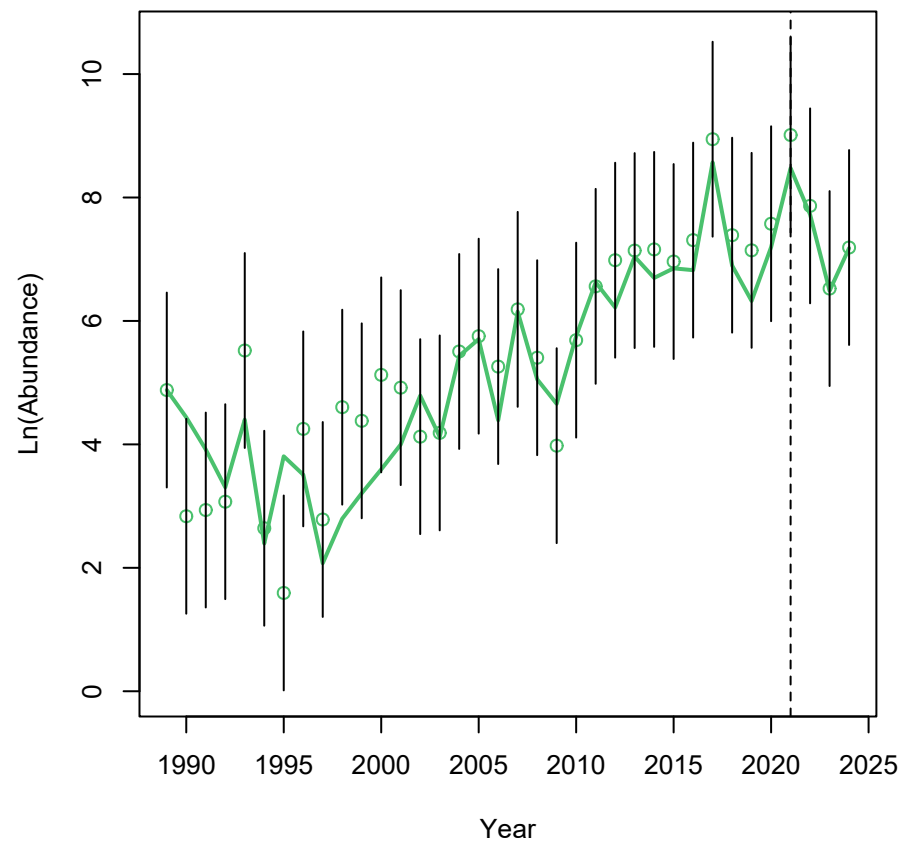
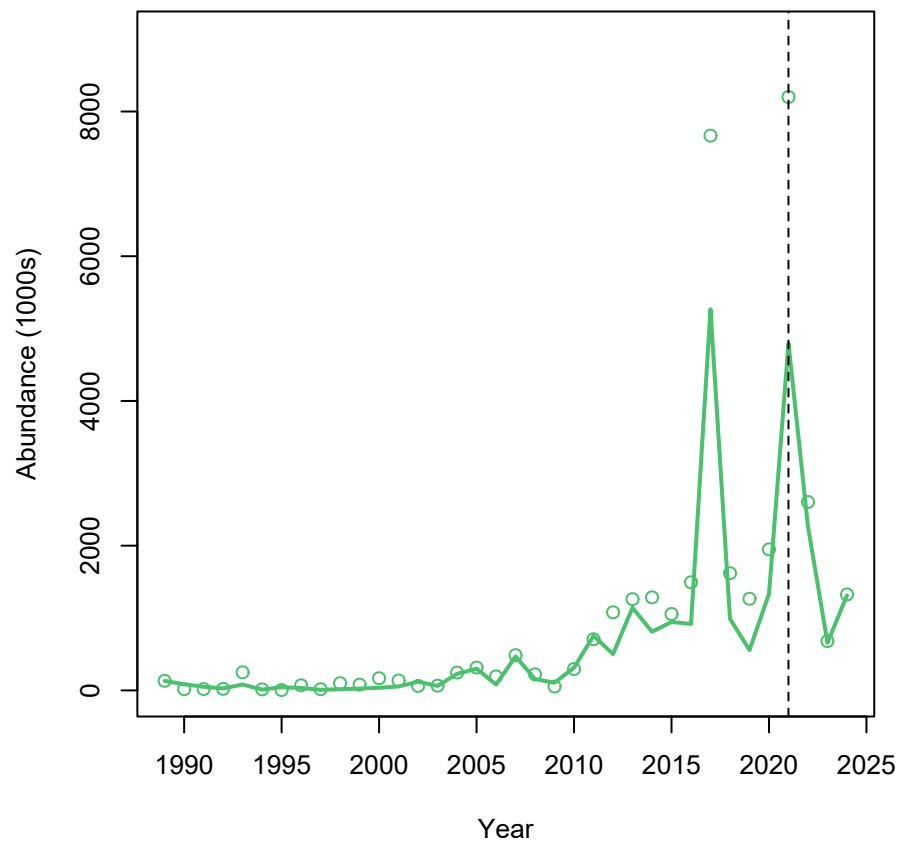




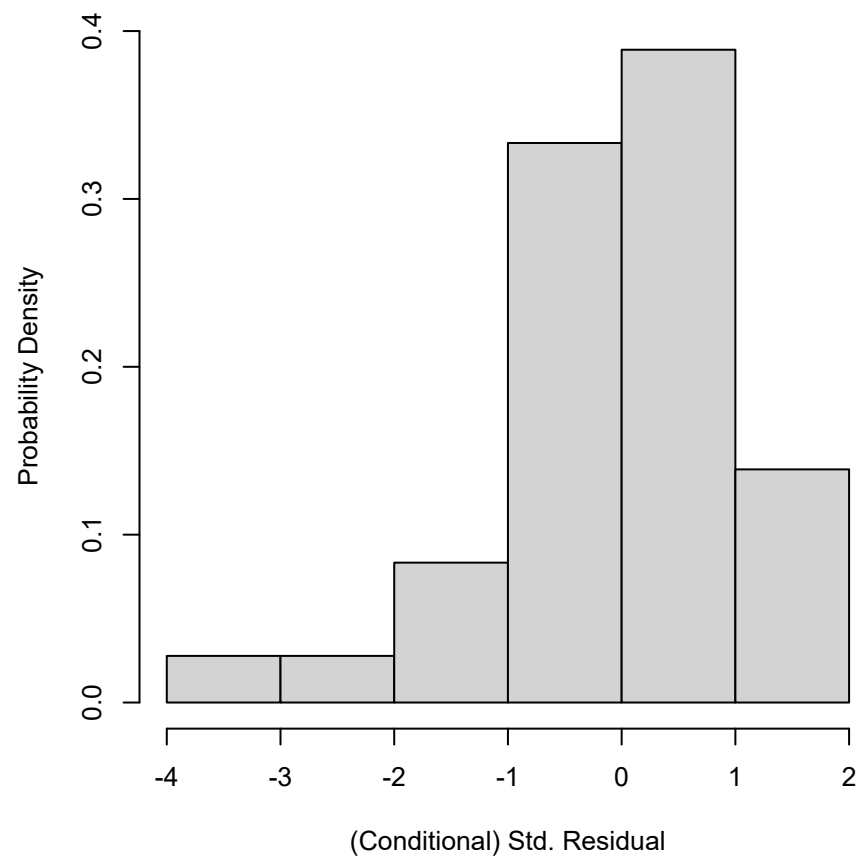
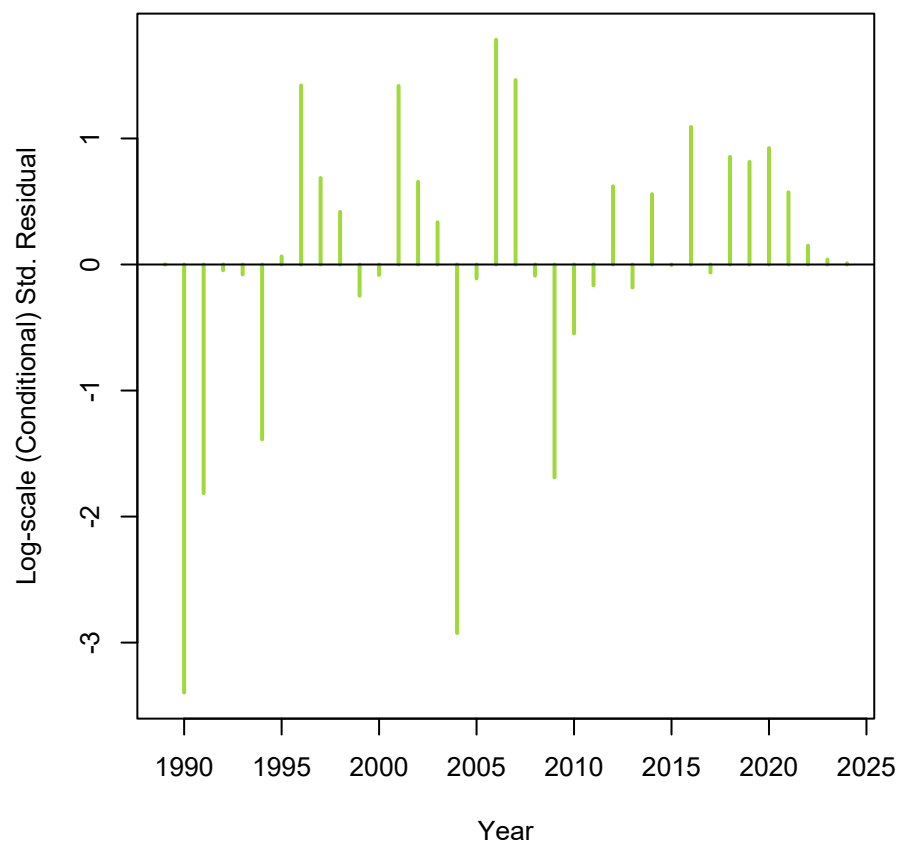
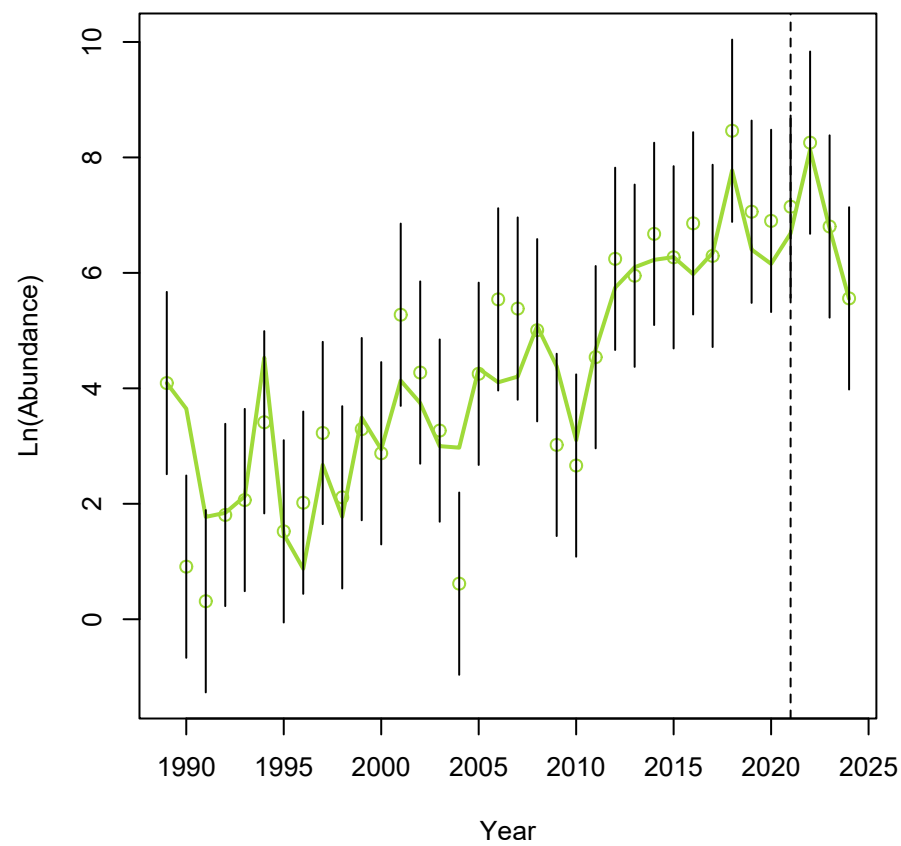
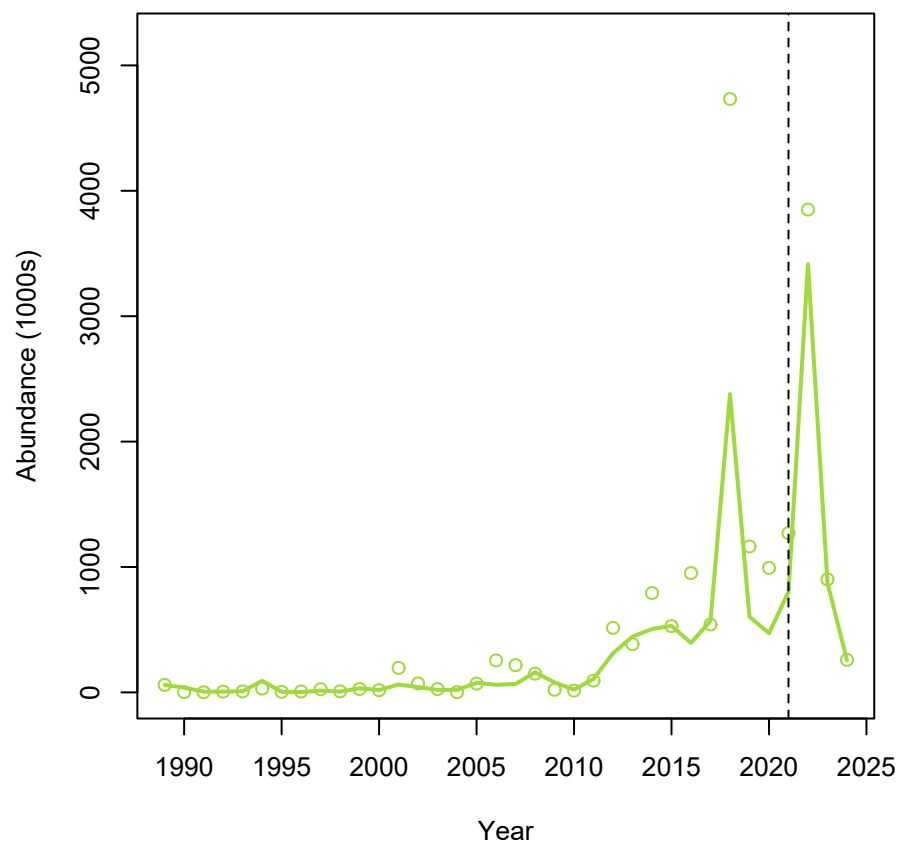
Conditional Expected and Posterior Estimates of Age 5 Abundance



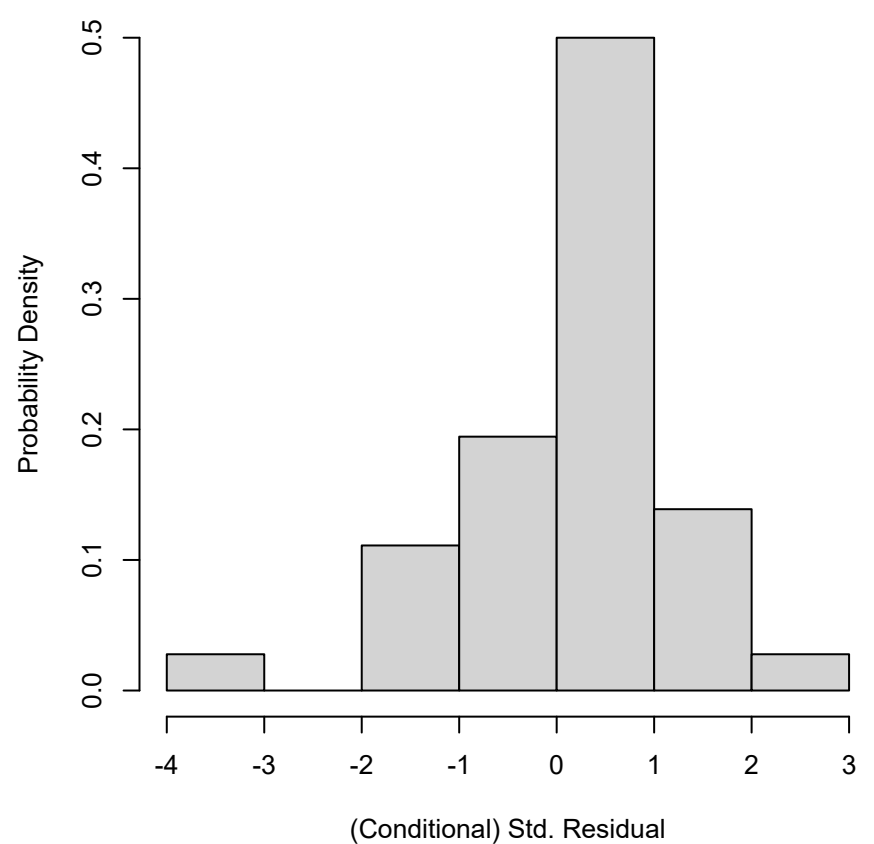
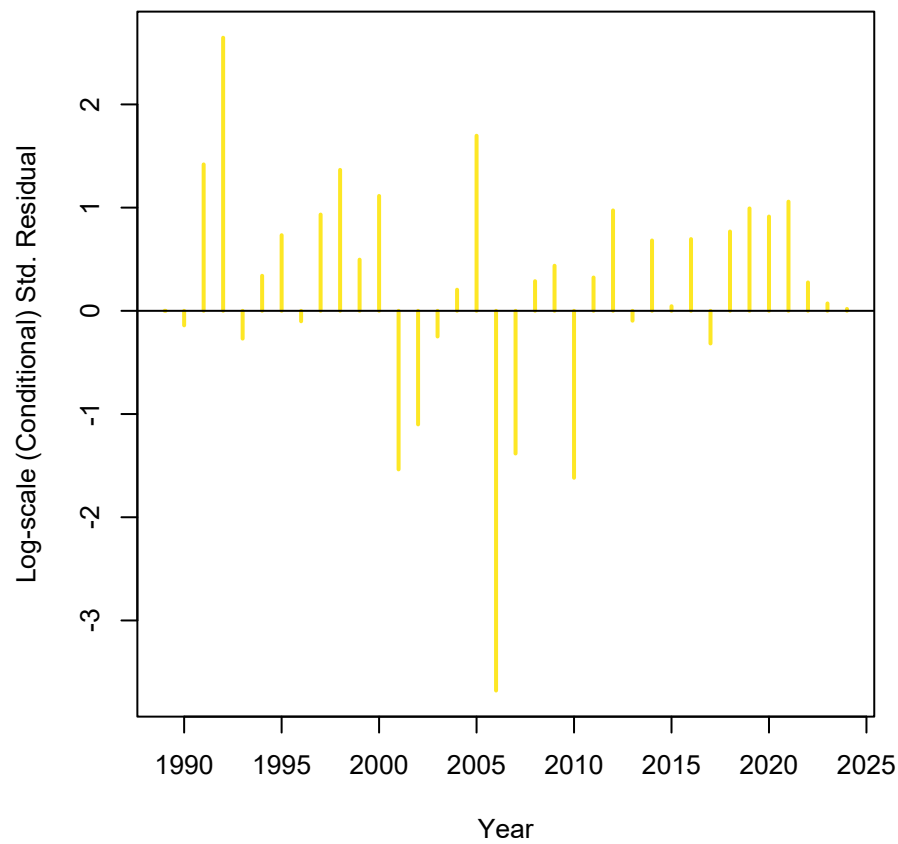
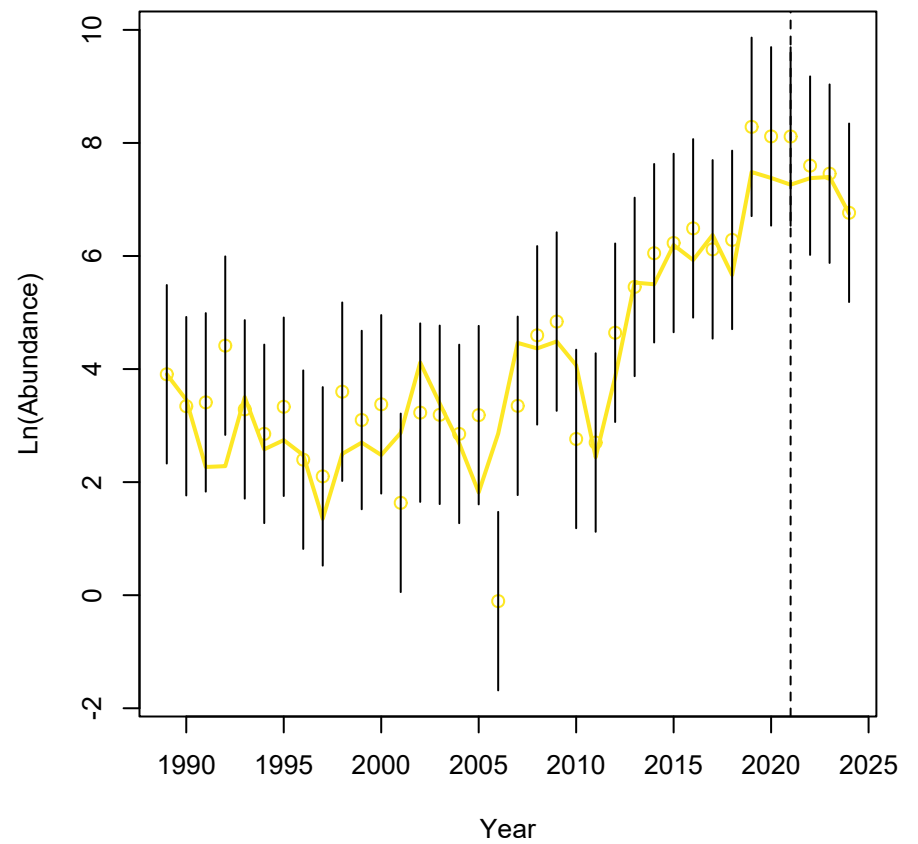
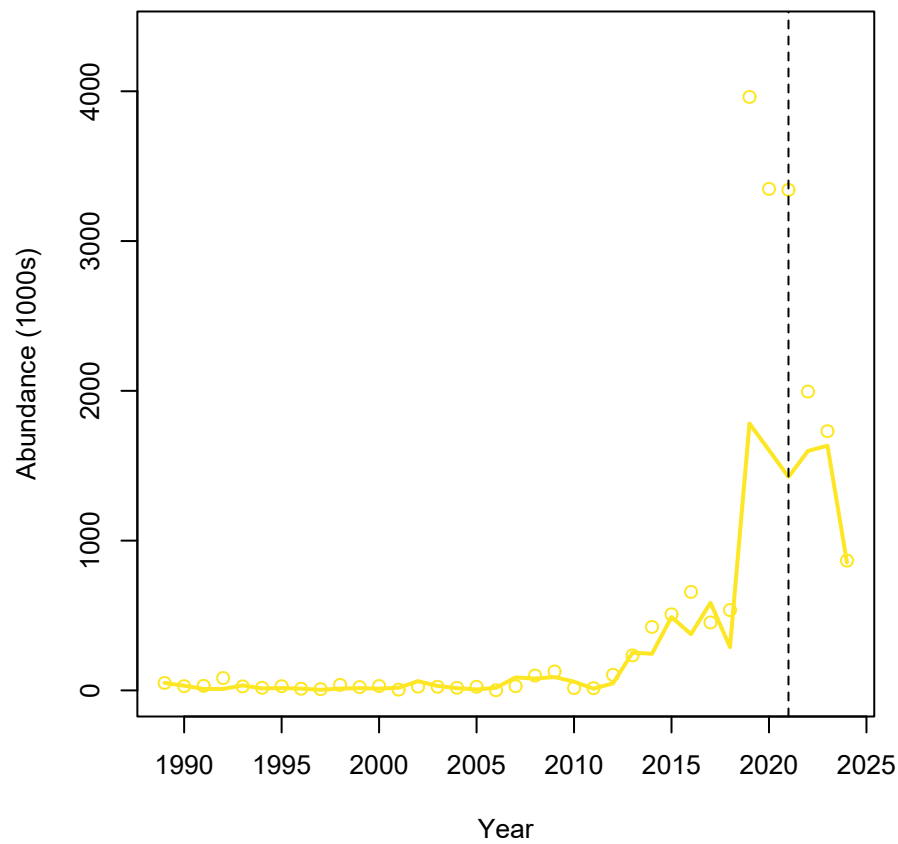
# Conditional Expected and Posterior Estimates of Age 6 Abundance



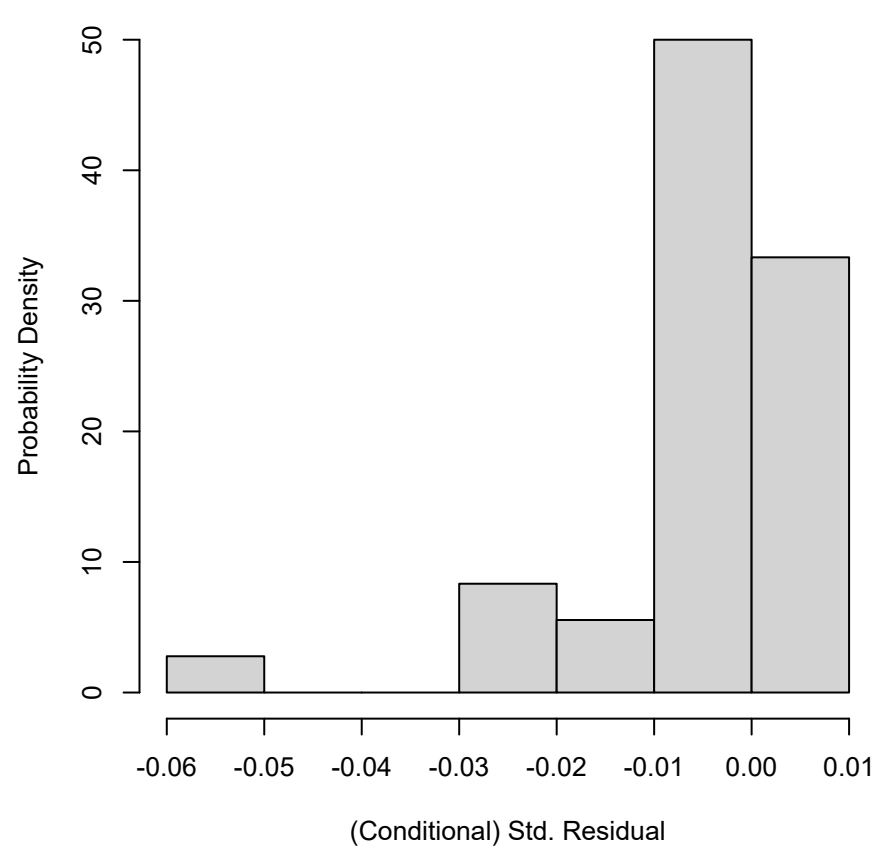
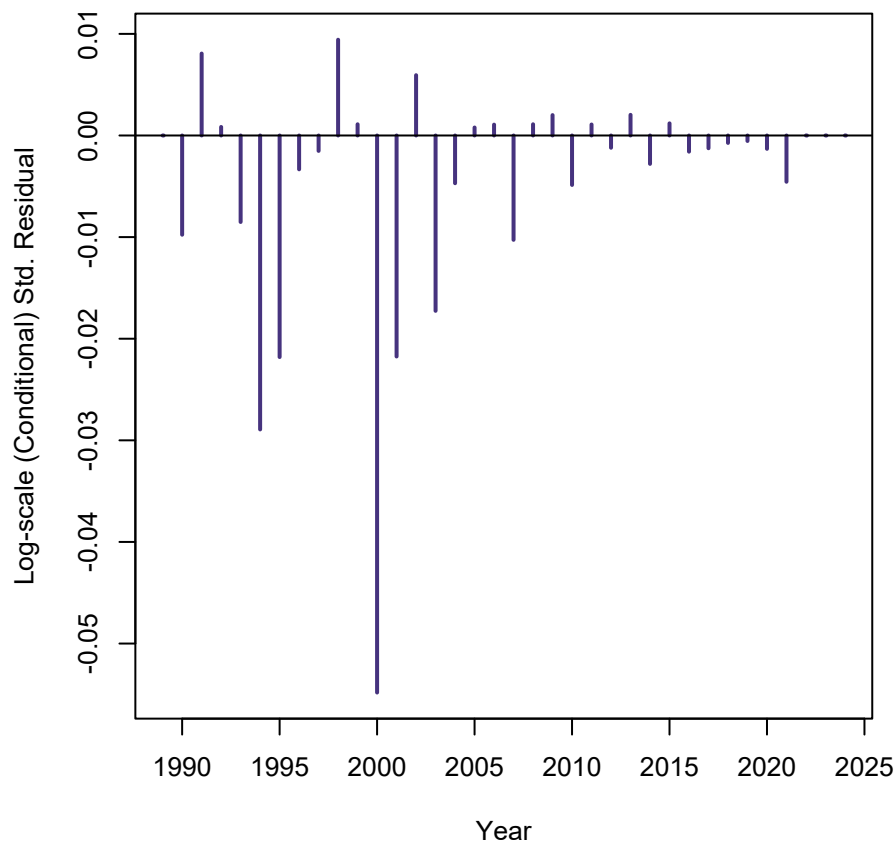
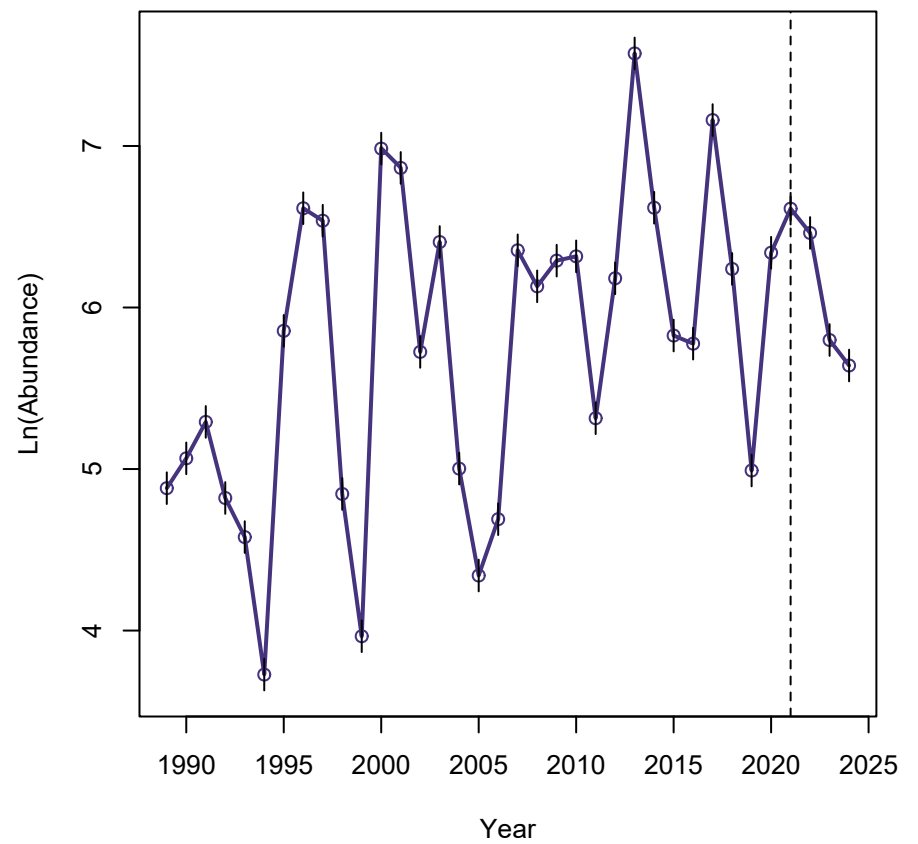
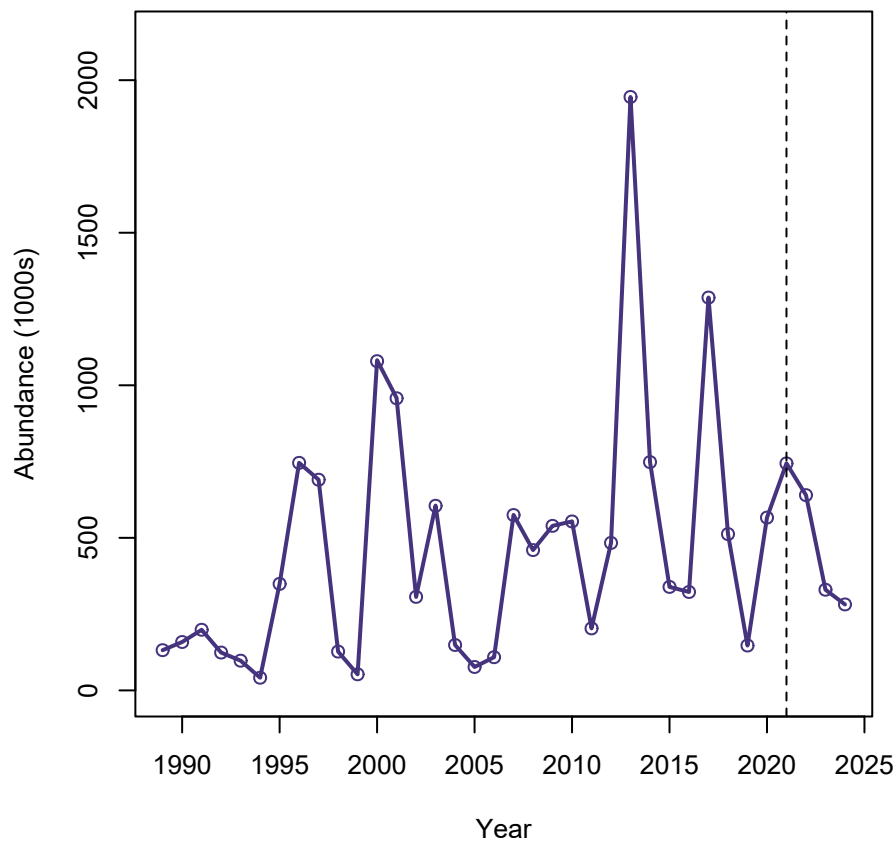
# Conditional Expected and Posterior Estimates of Age 7 Abundance



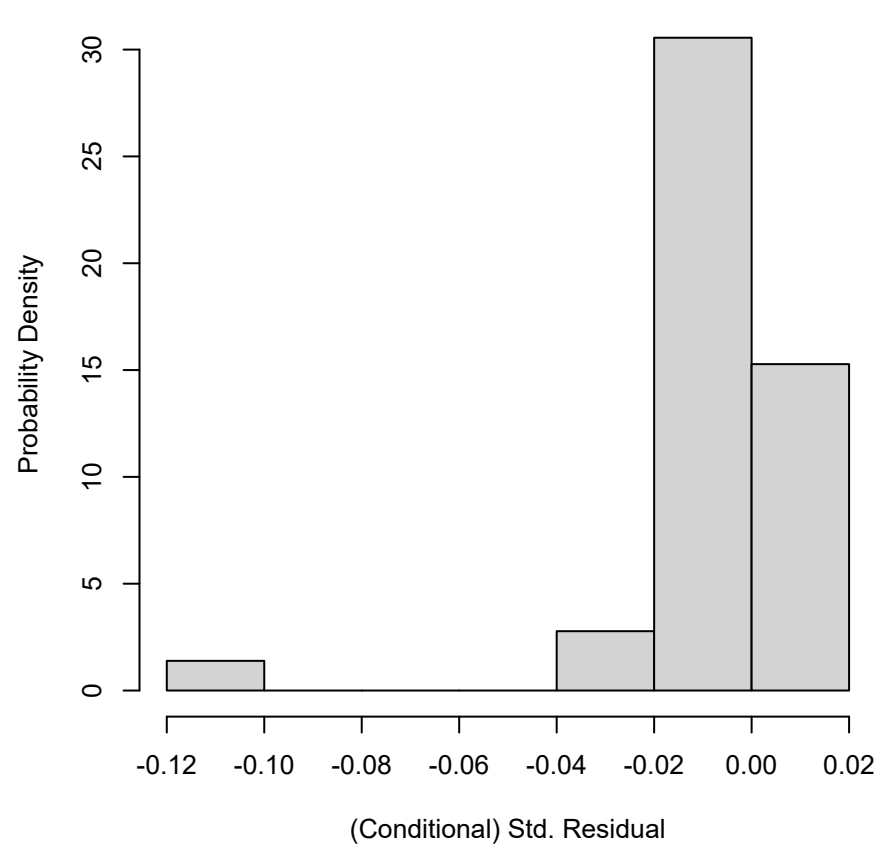
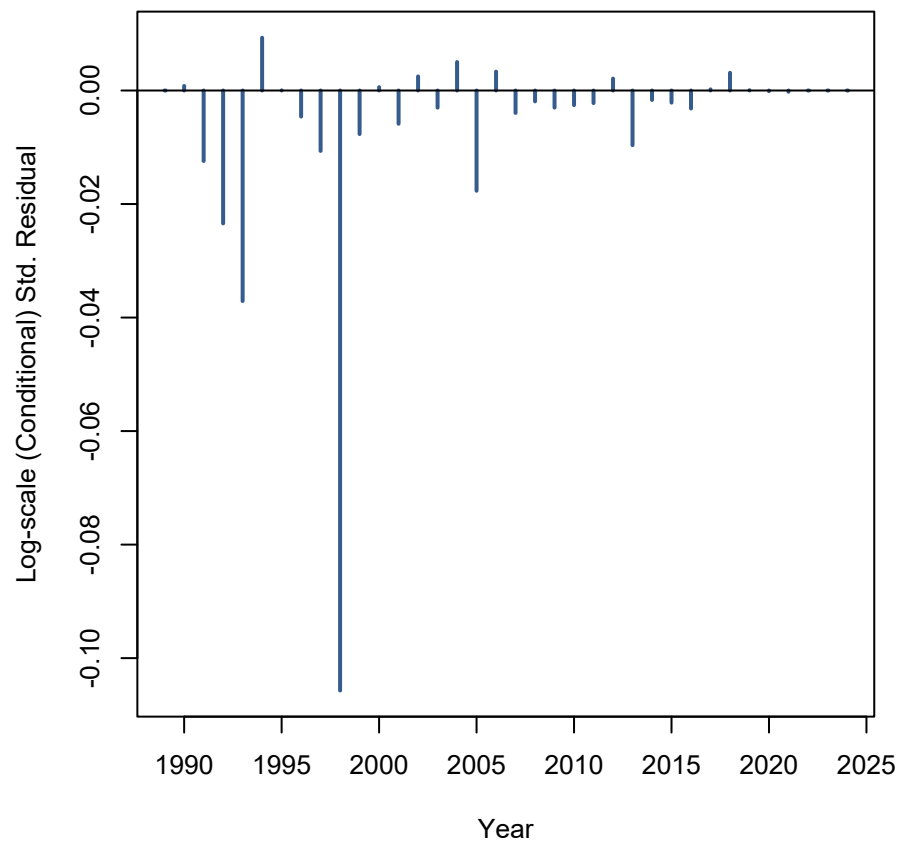
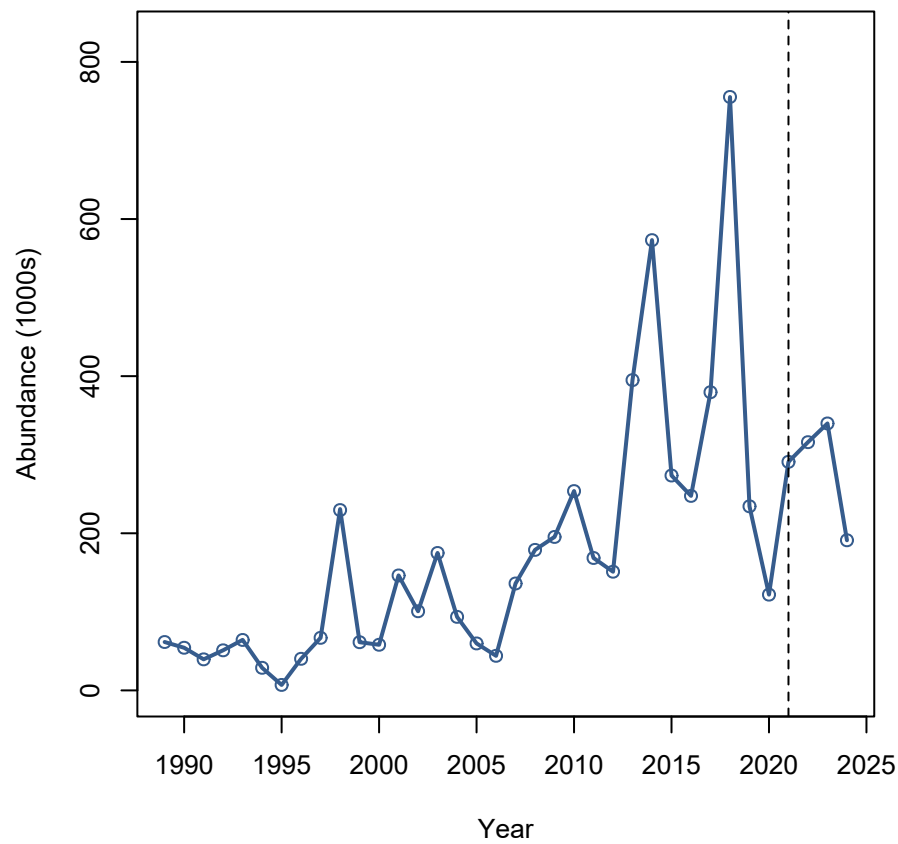
# Conditional Expected and Posterior Estimates of Age 8 Abundance



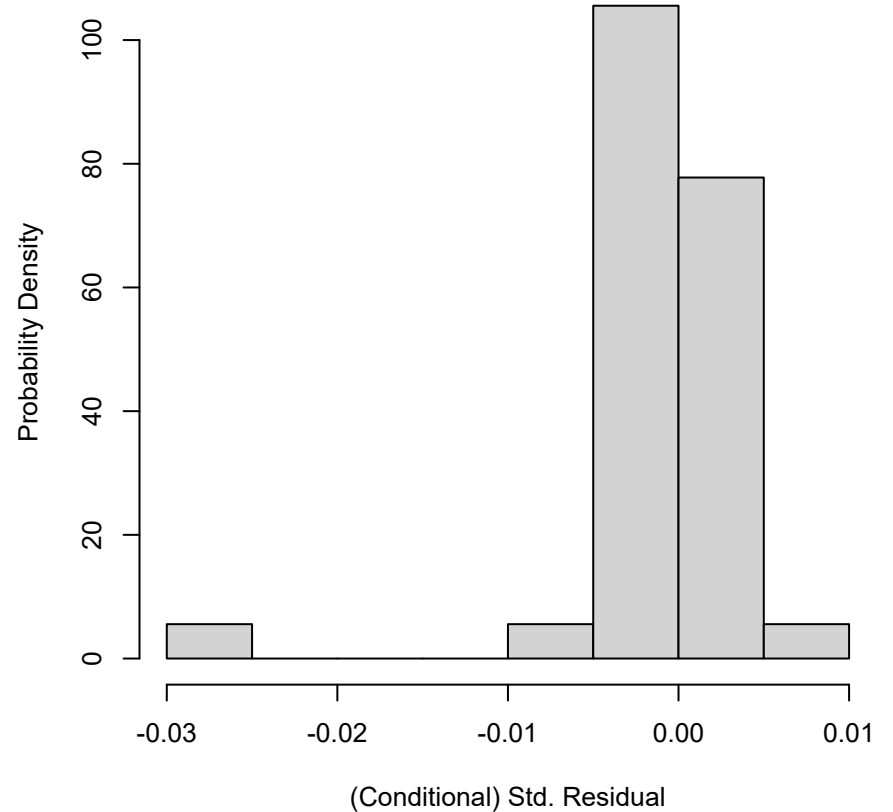
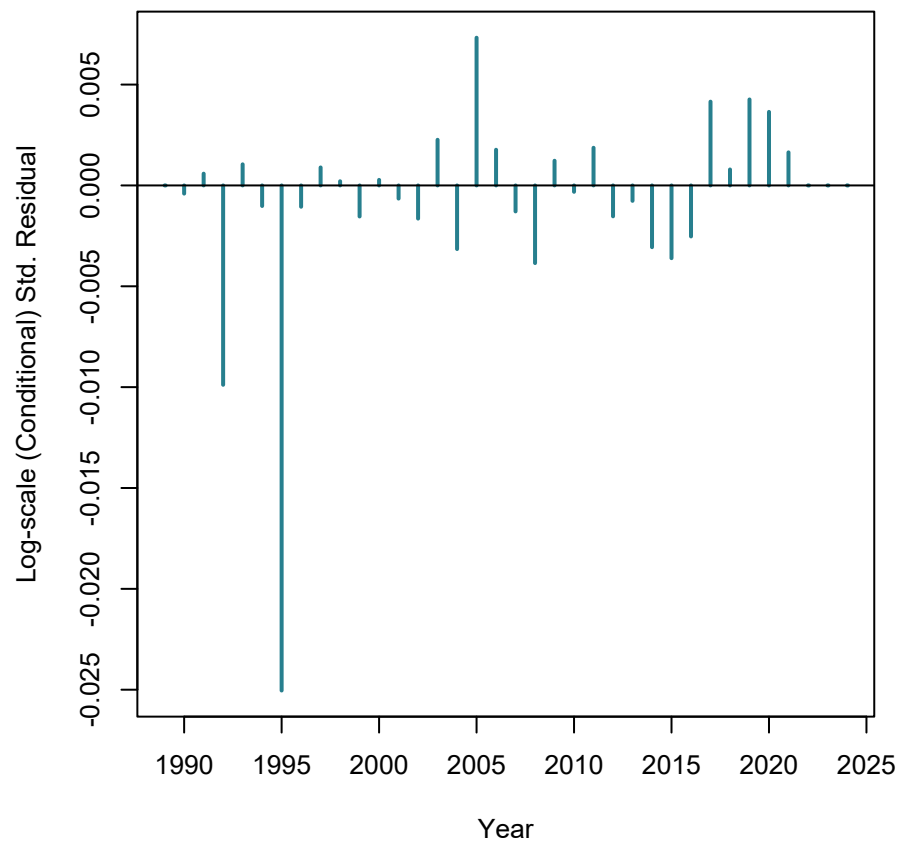
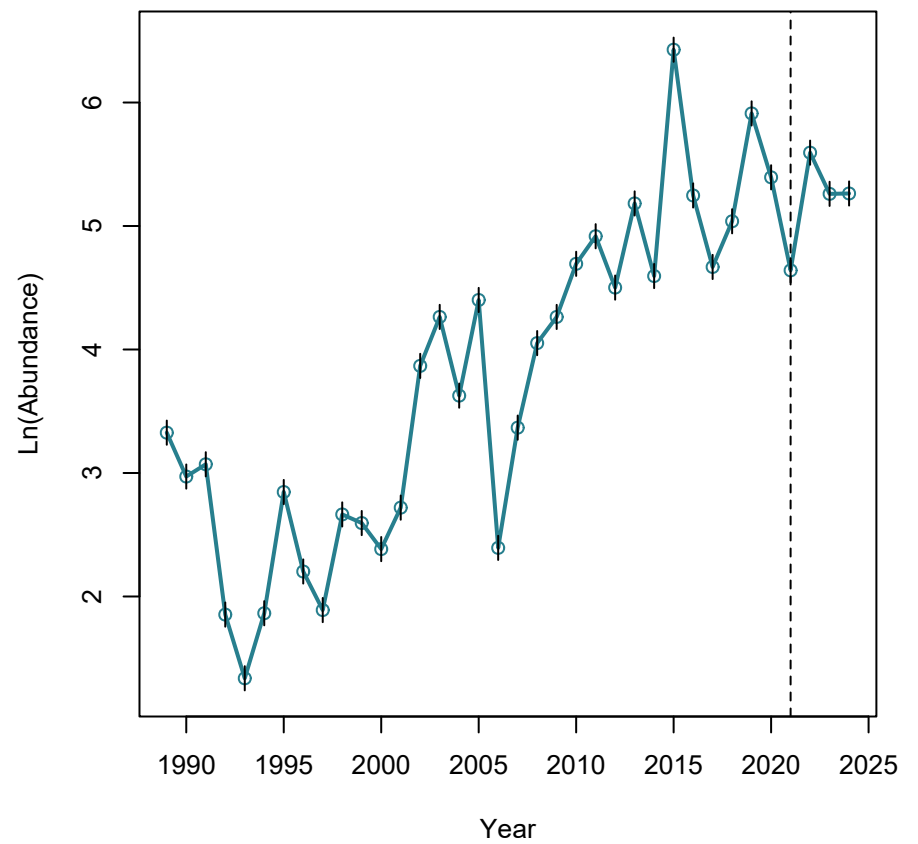
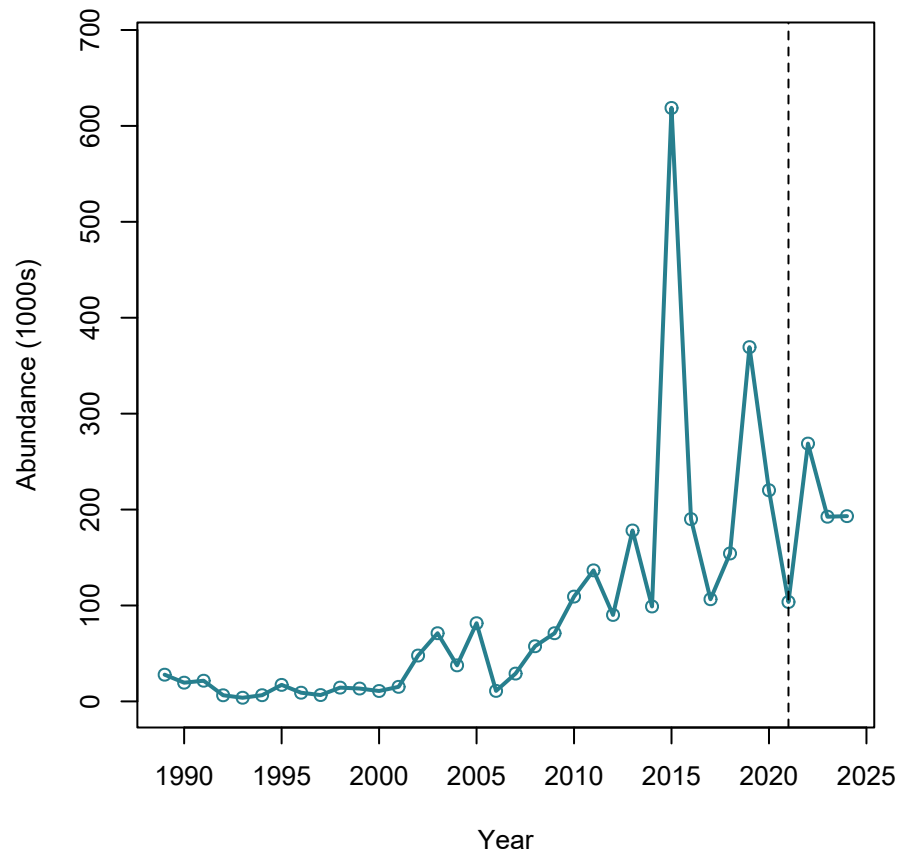
# Conditional Expected and Posterior Estimates of Age 2 Abundance



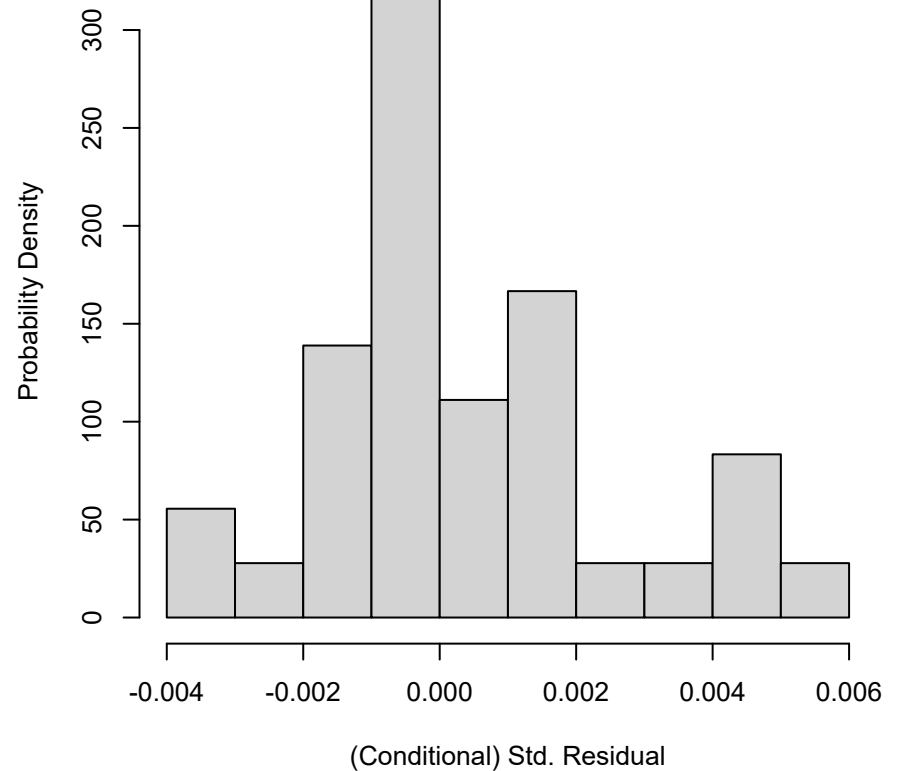
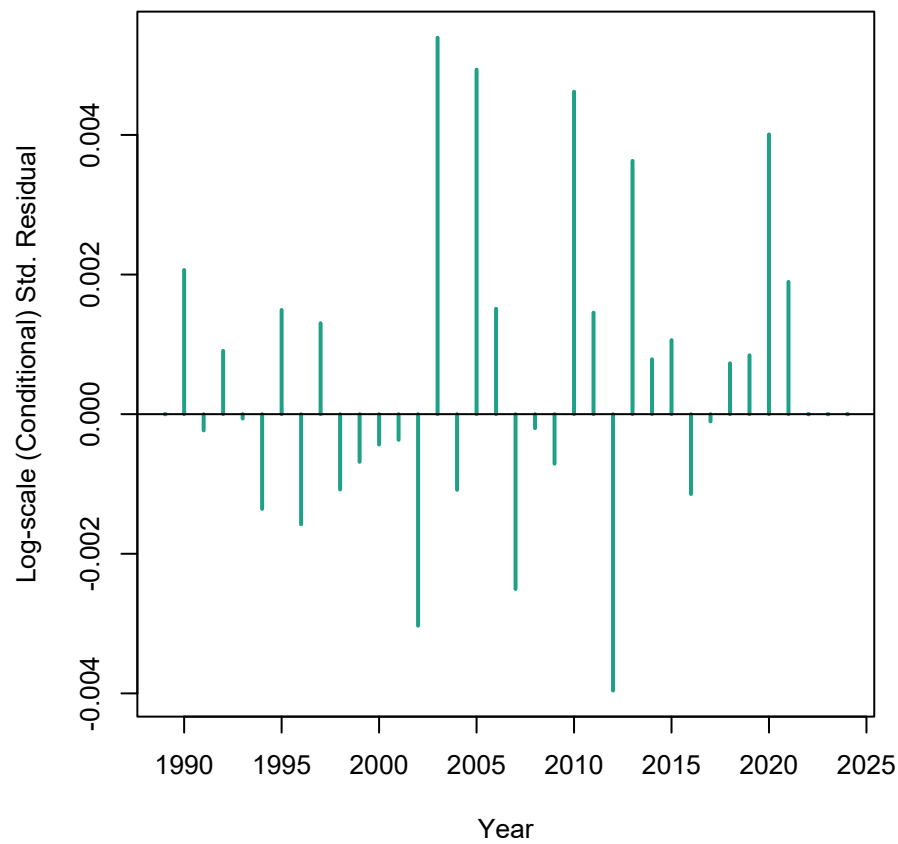
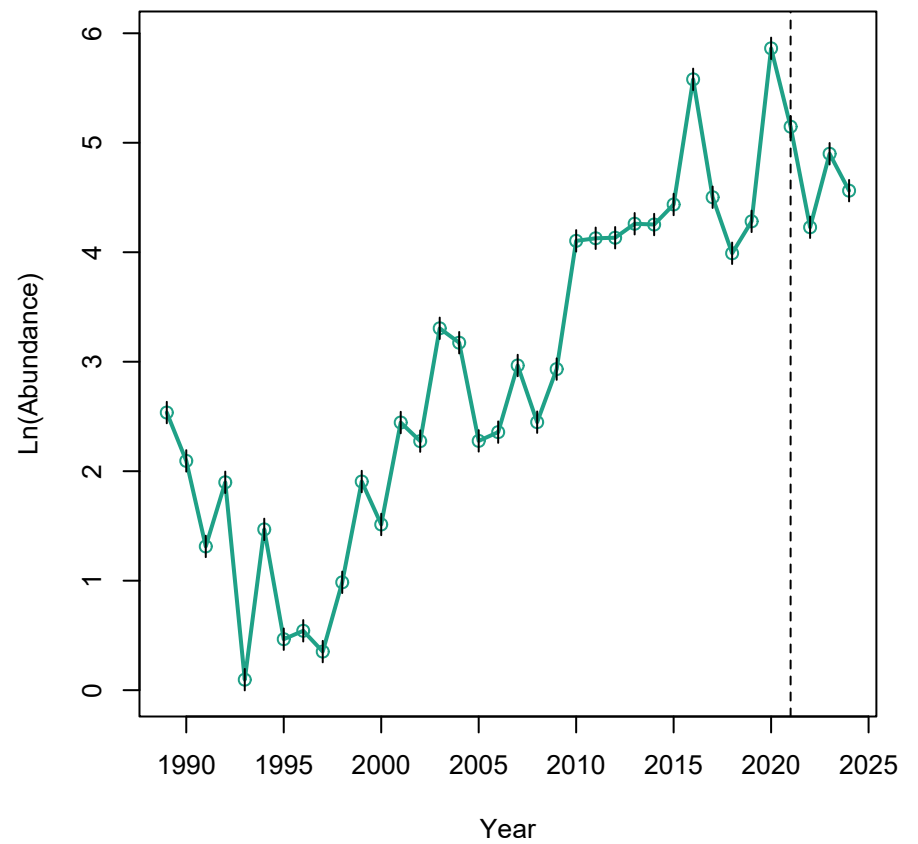
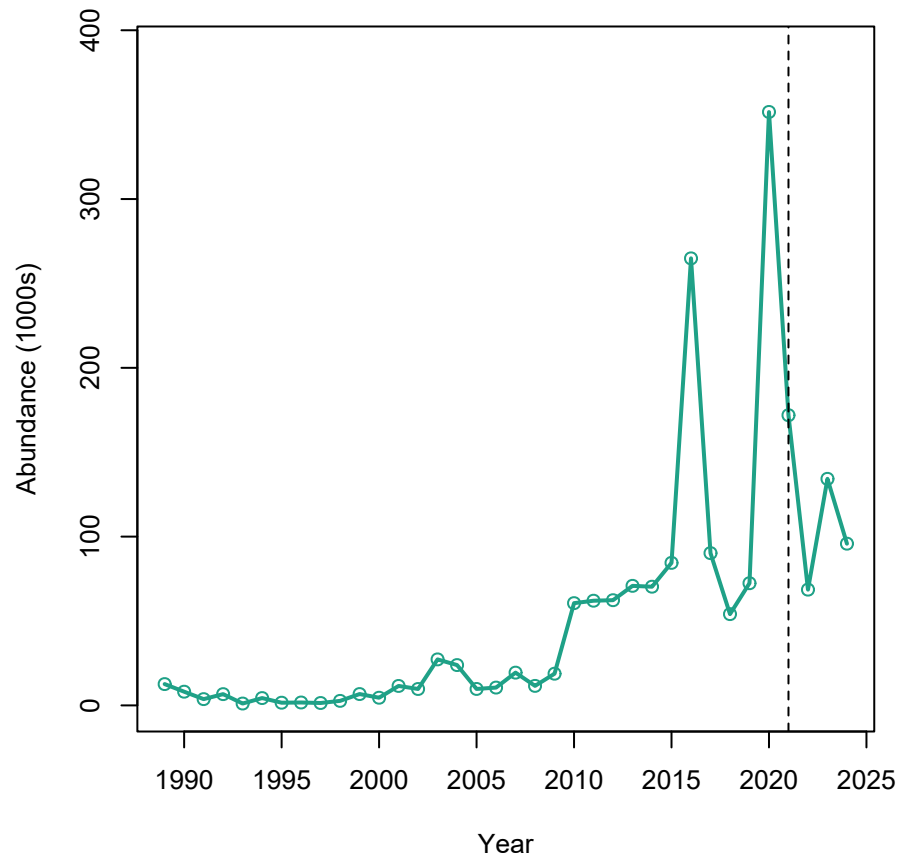
# Conditional Expected and Posterior Estimates of Age 3 Abundance



# Conditional Expected and Posterior Estimates of Age 4 Abundance

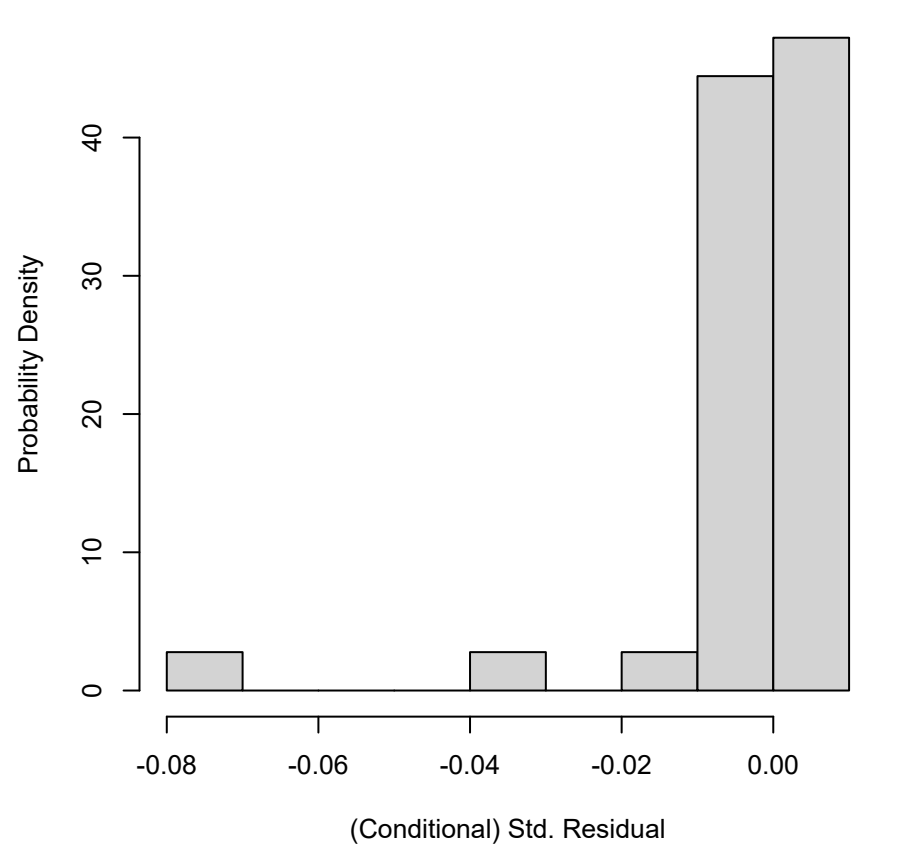
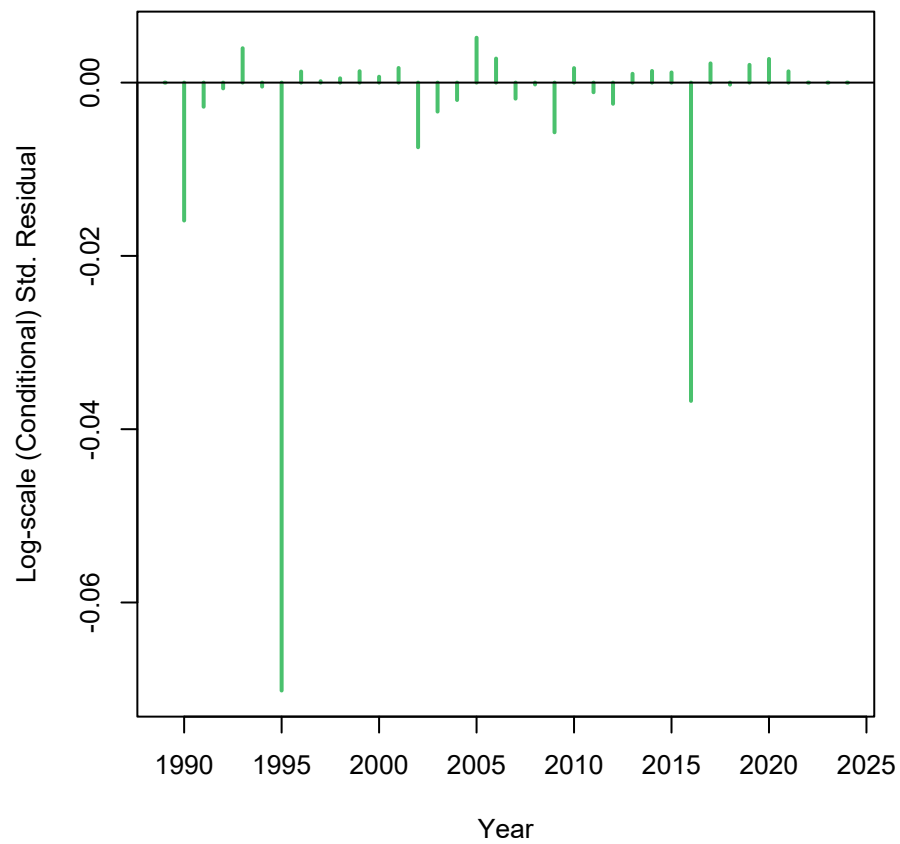
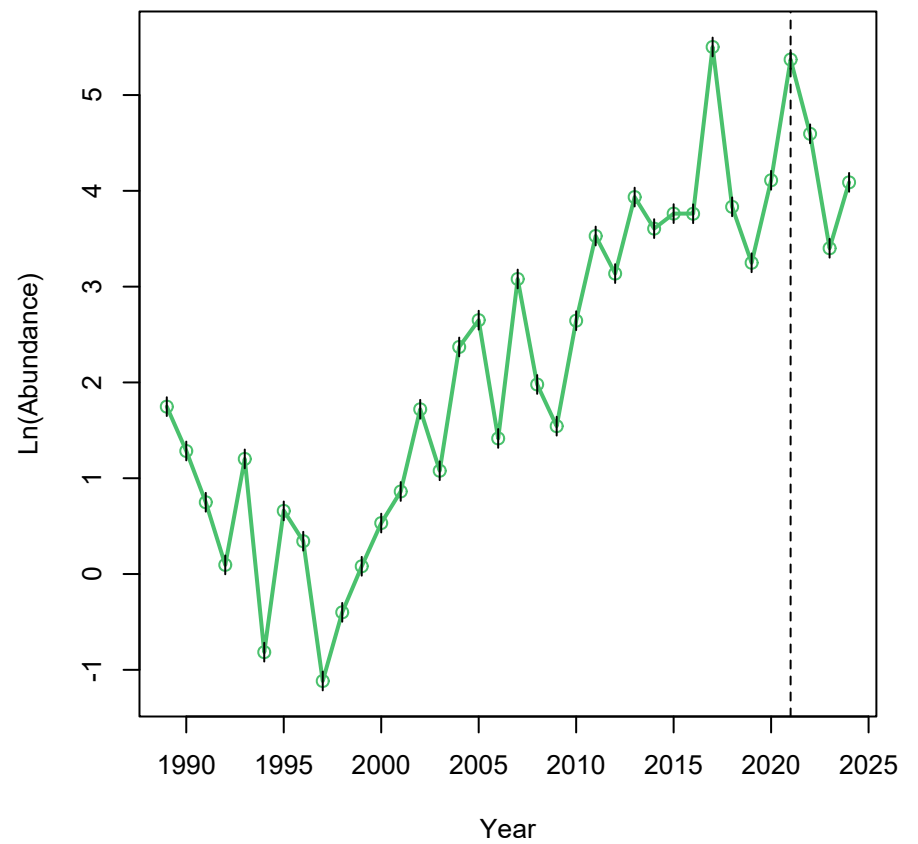
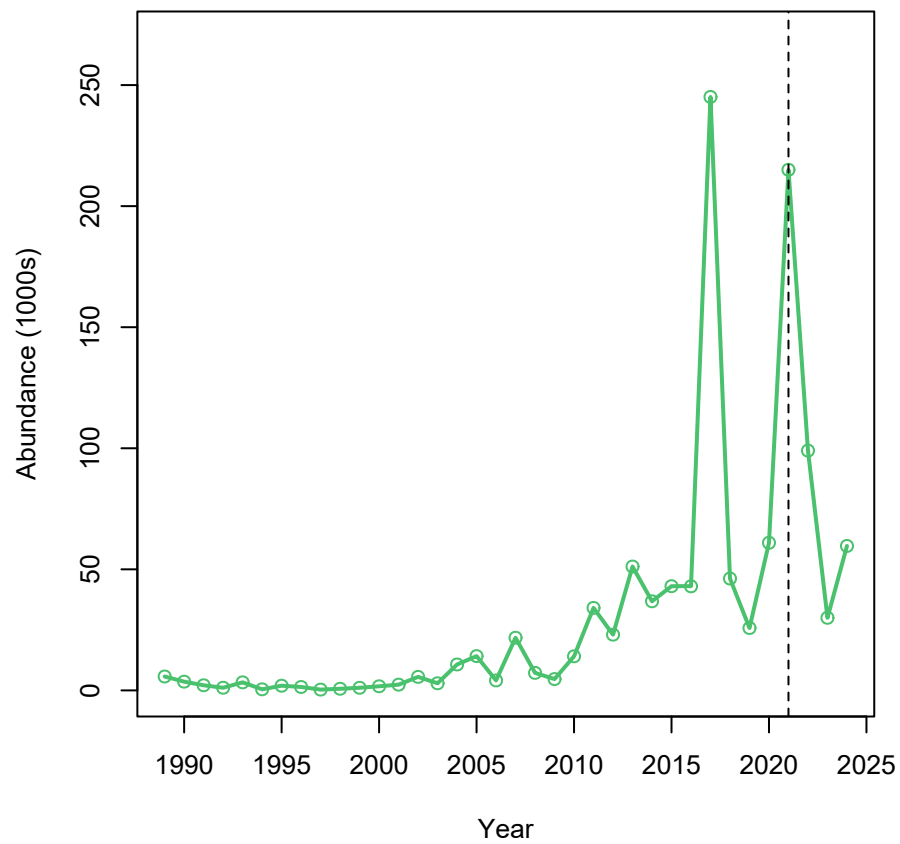


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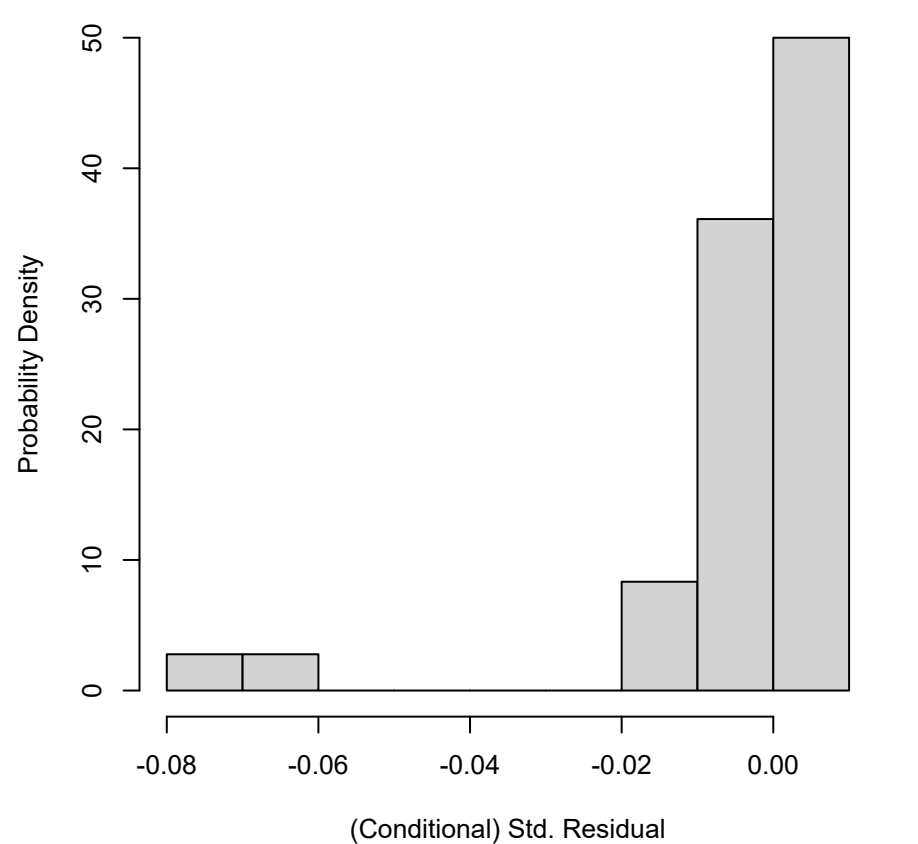
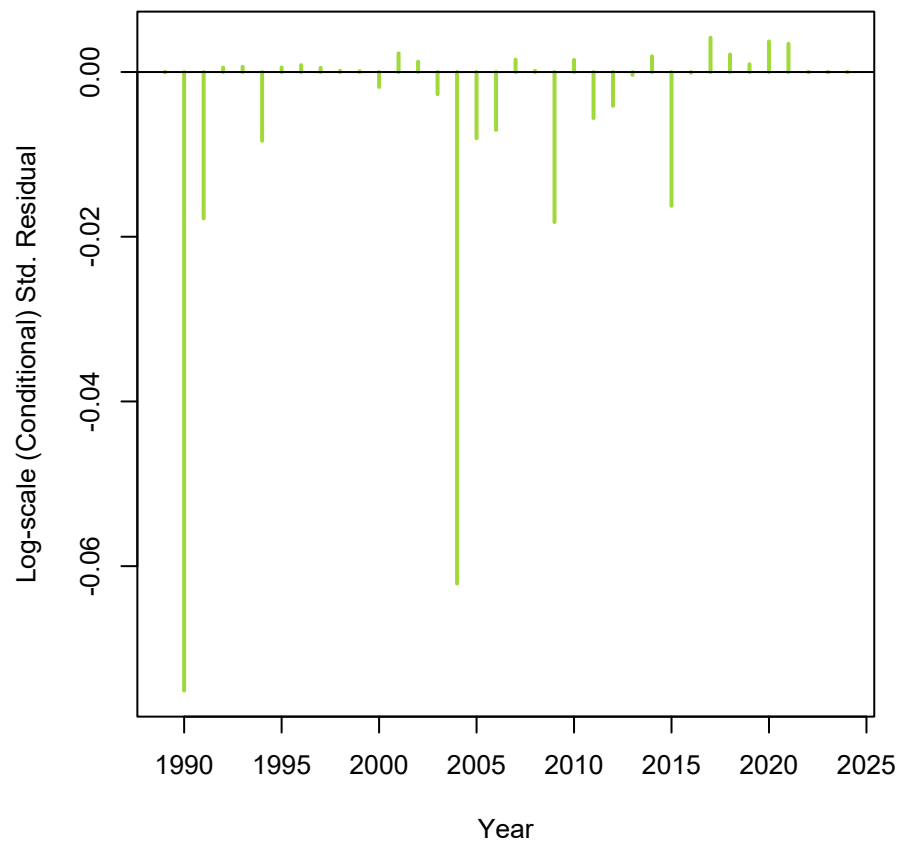
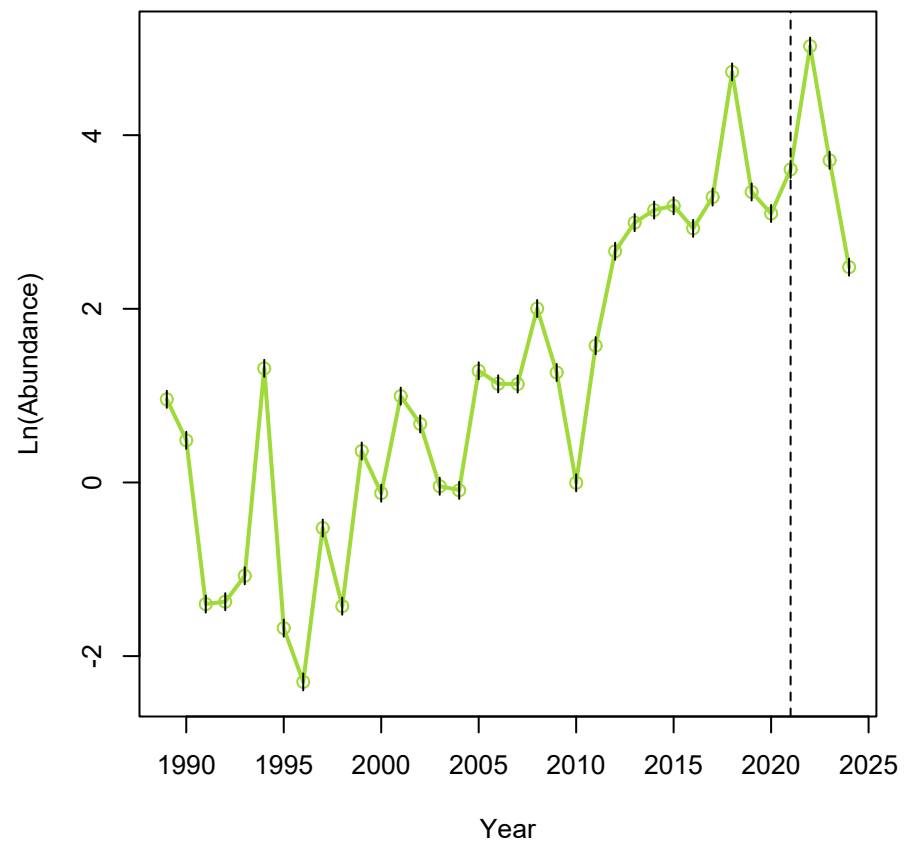
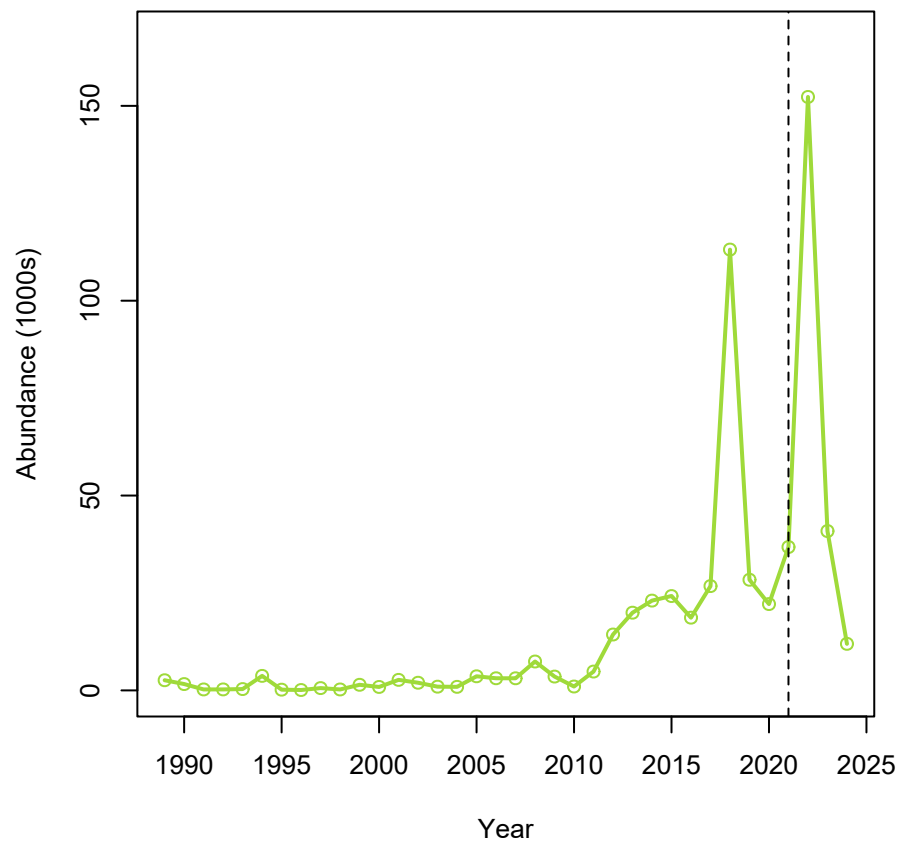




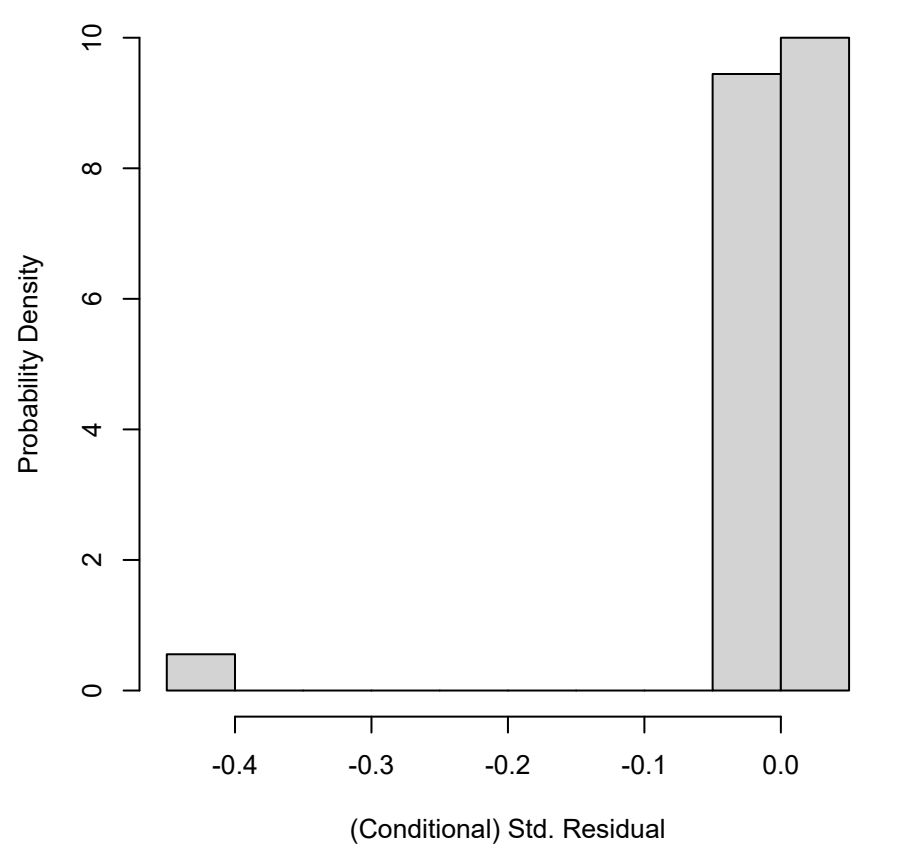
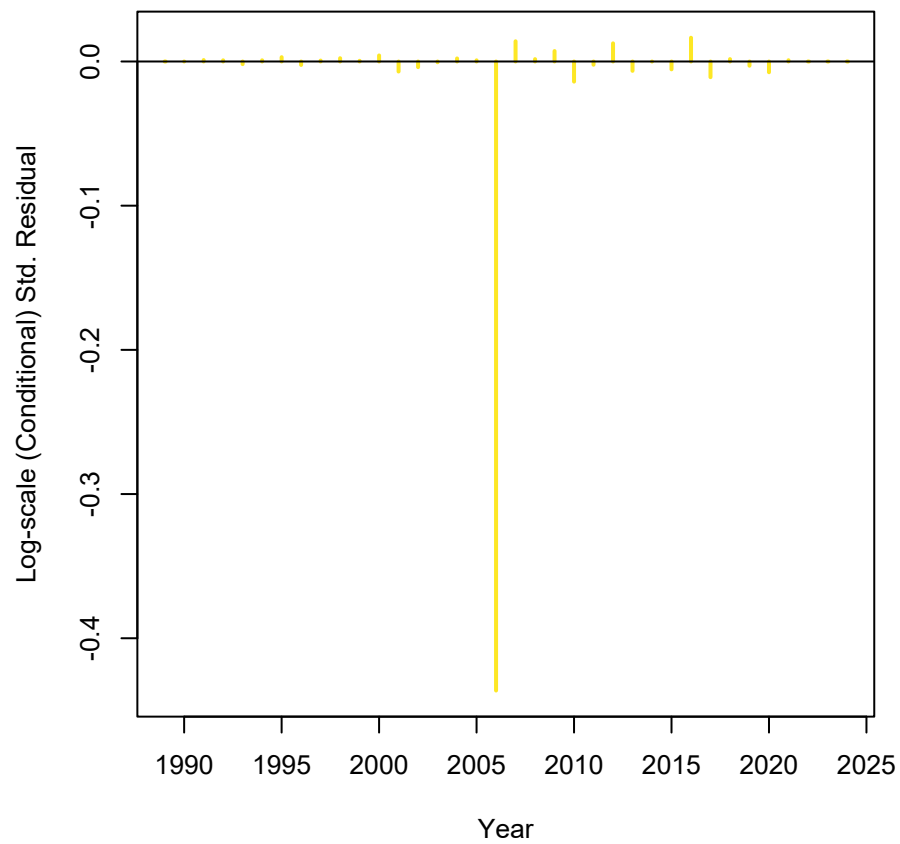
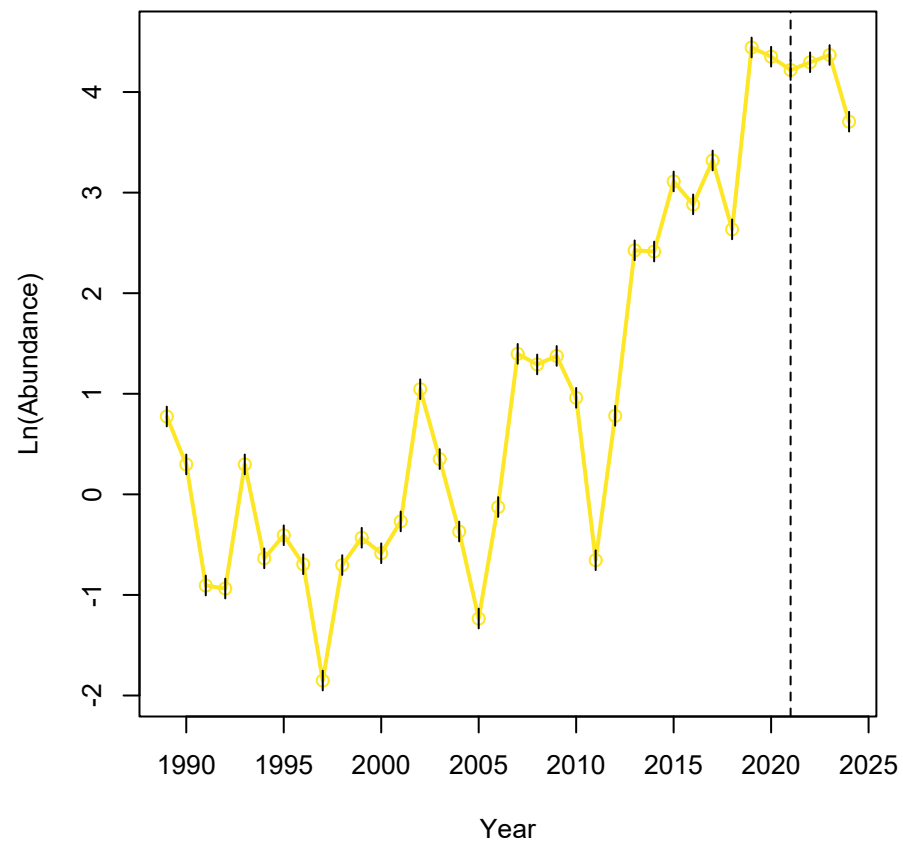
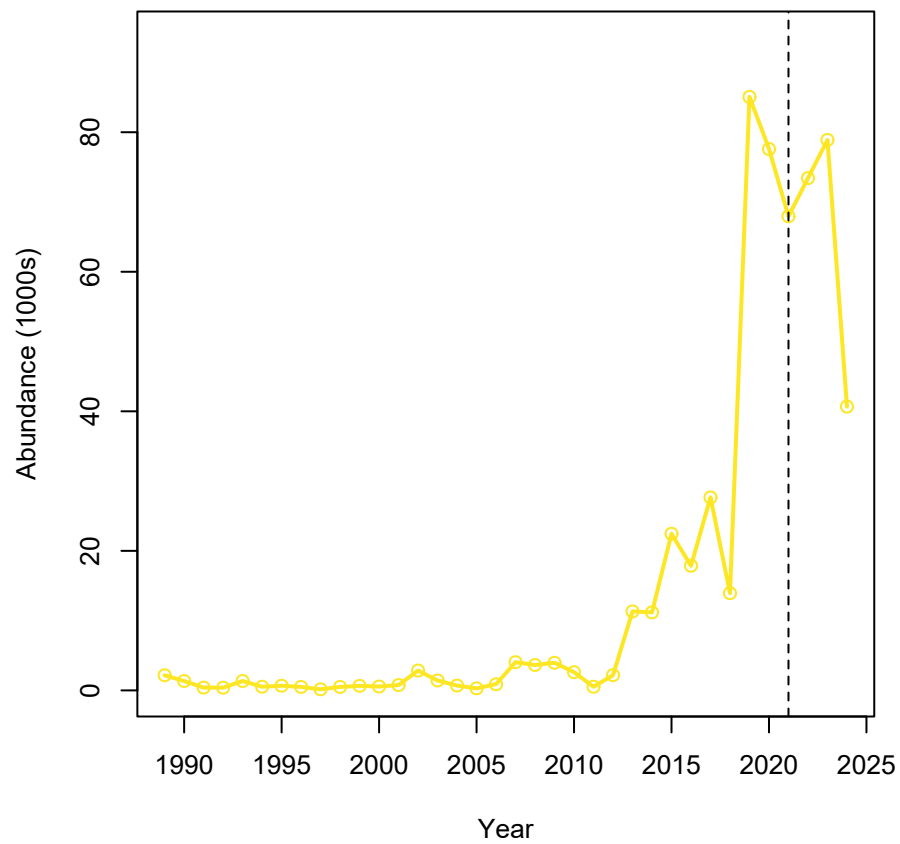
# Conditional Expected and Posterior Estimates of Age 6 Abundance



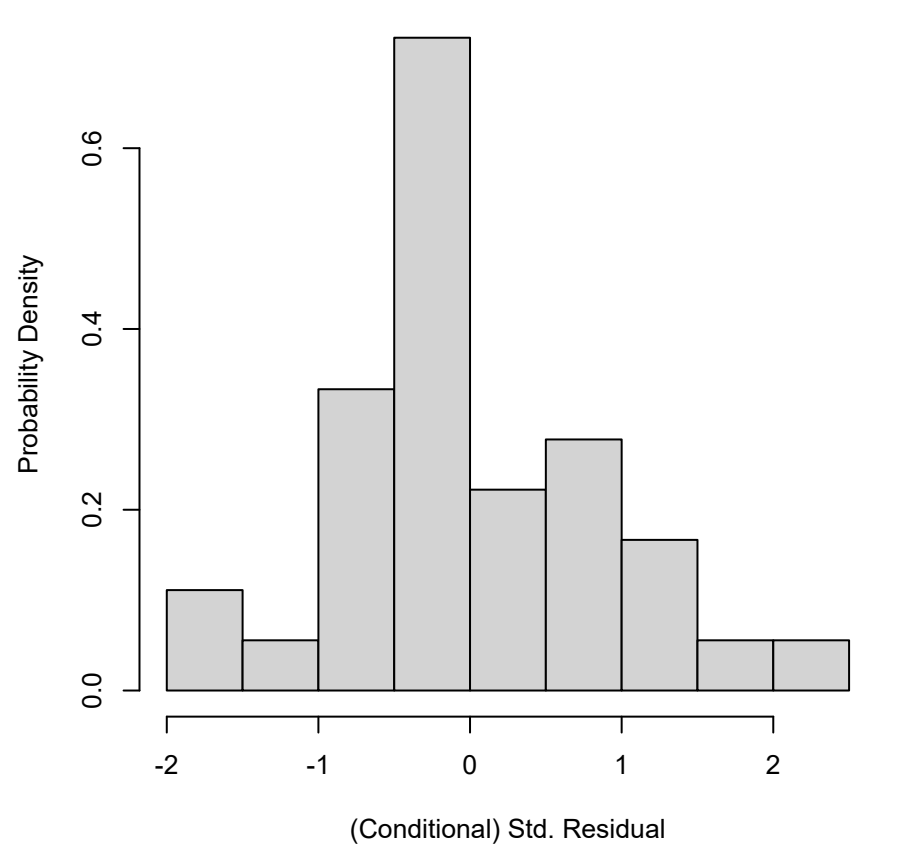
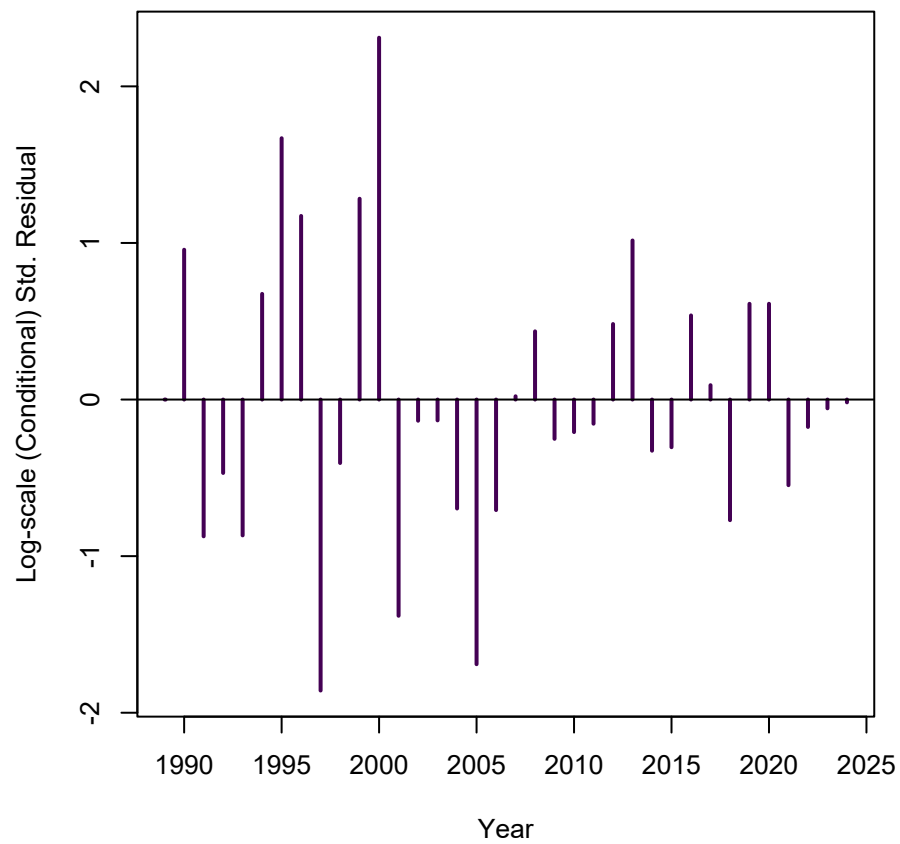
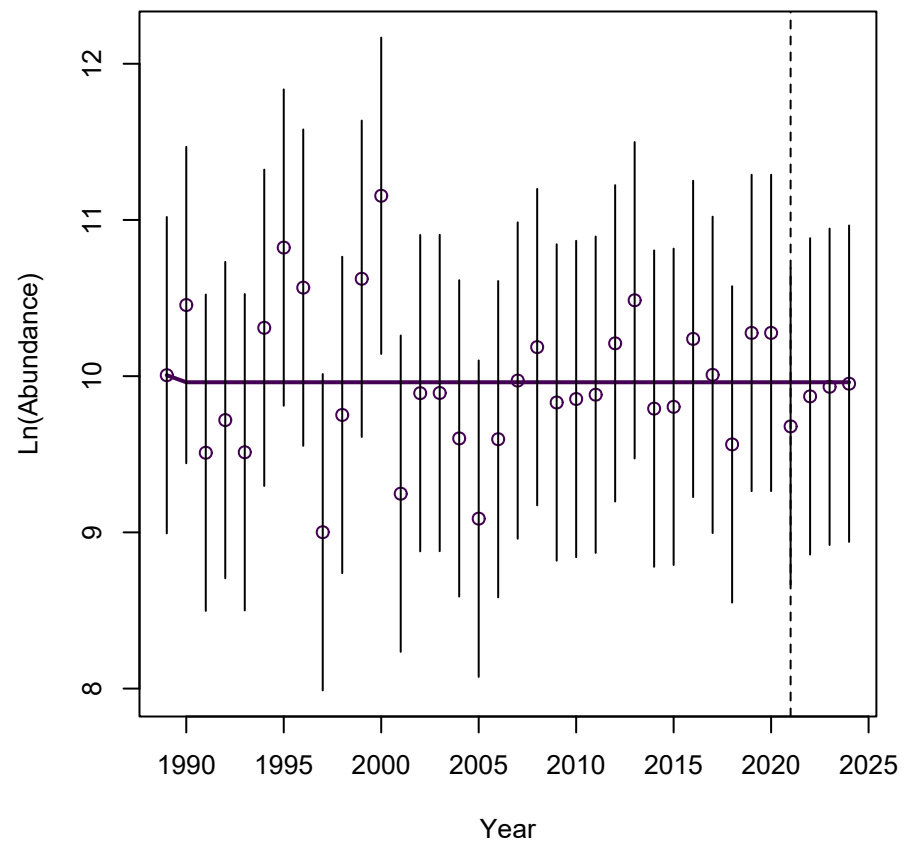
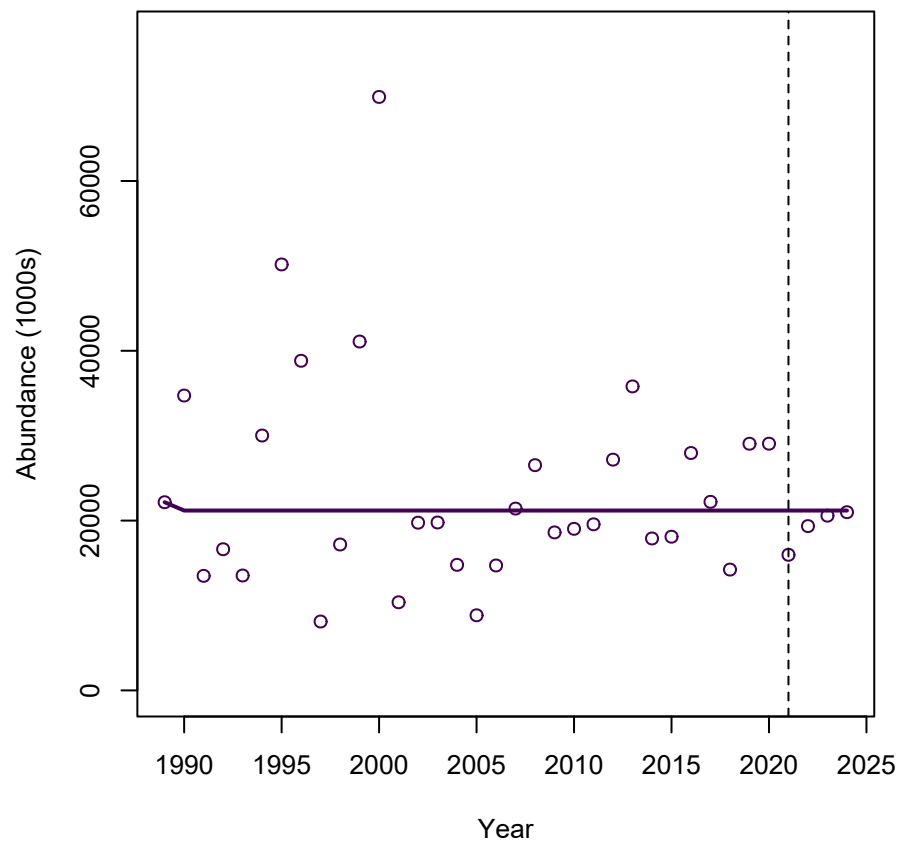
# Conditional Expected and Posterior Estimates of Age 7 Abundance



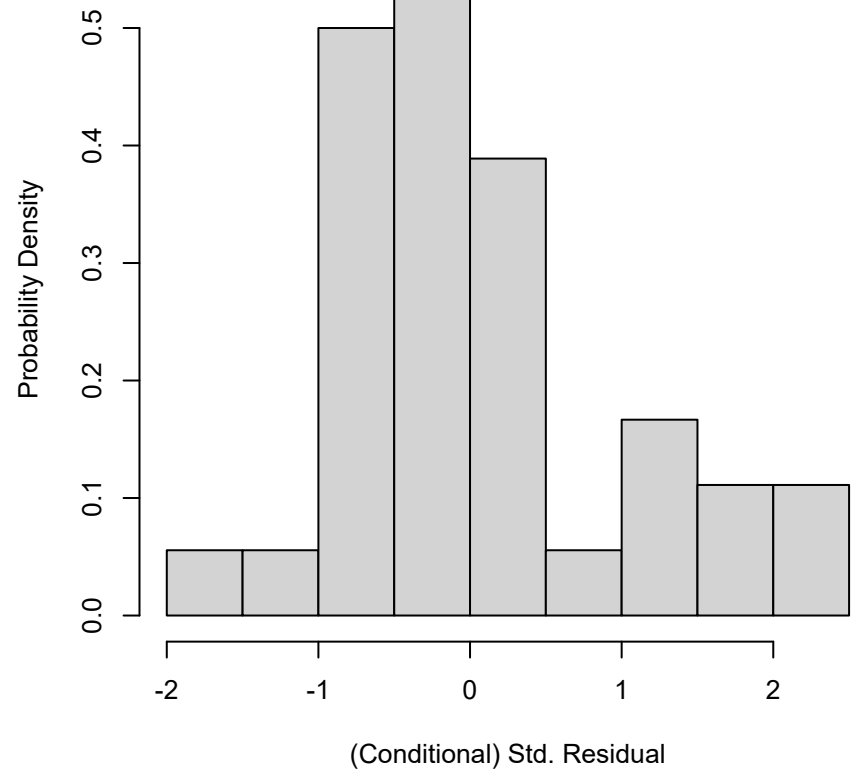
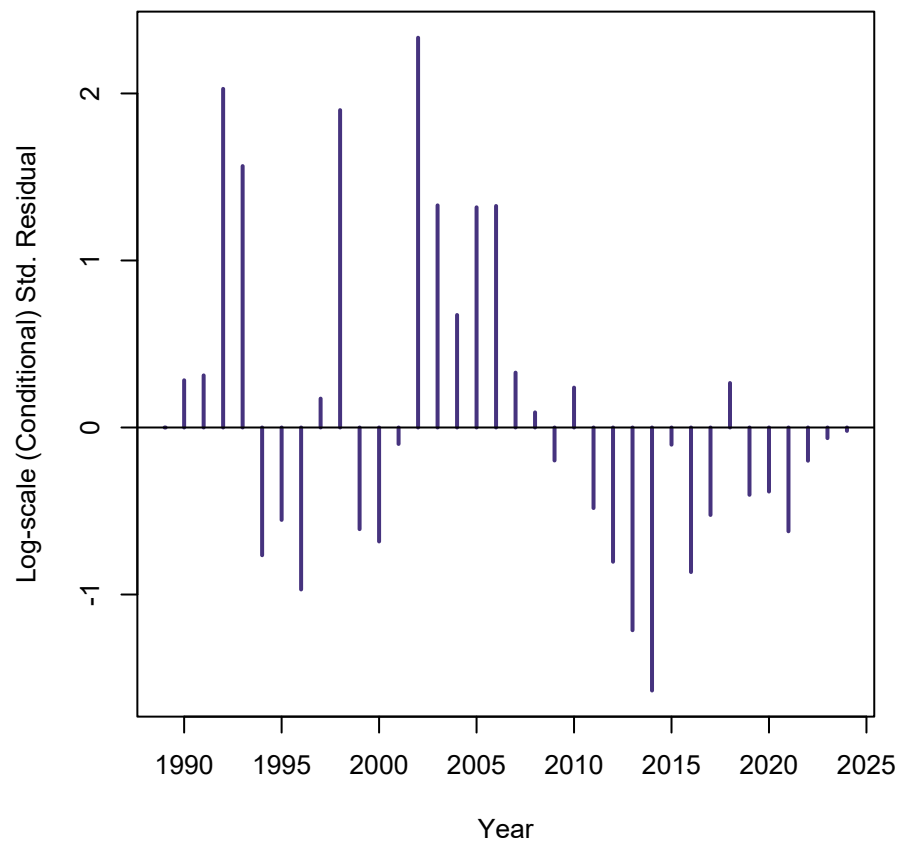
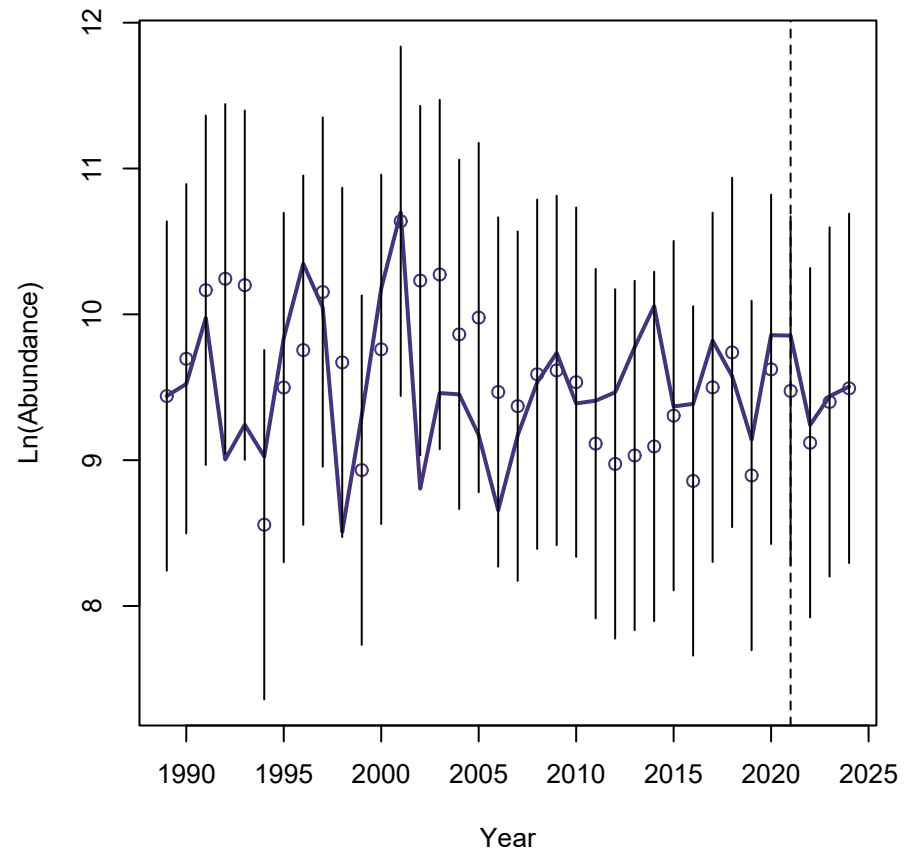
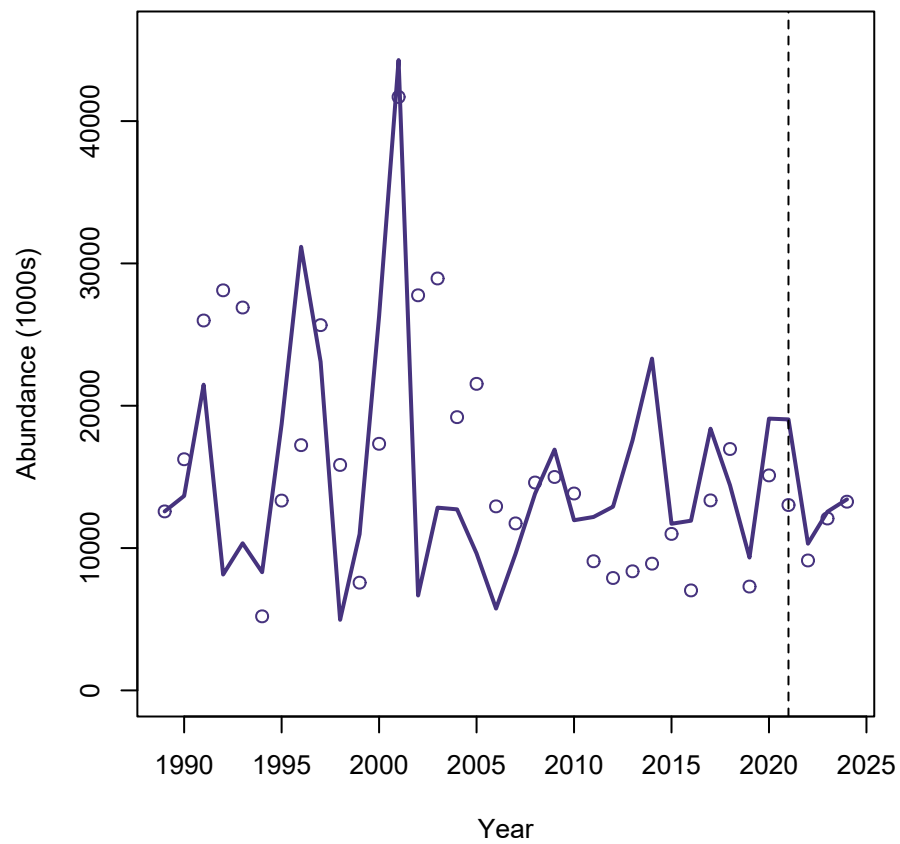
# Conditional Expected and Posterior Estimates of Age 8 Abundance



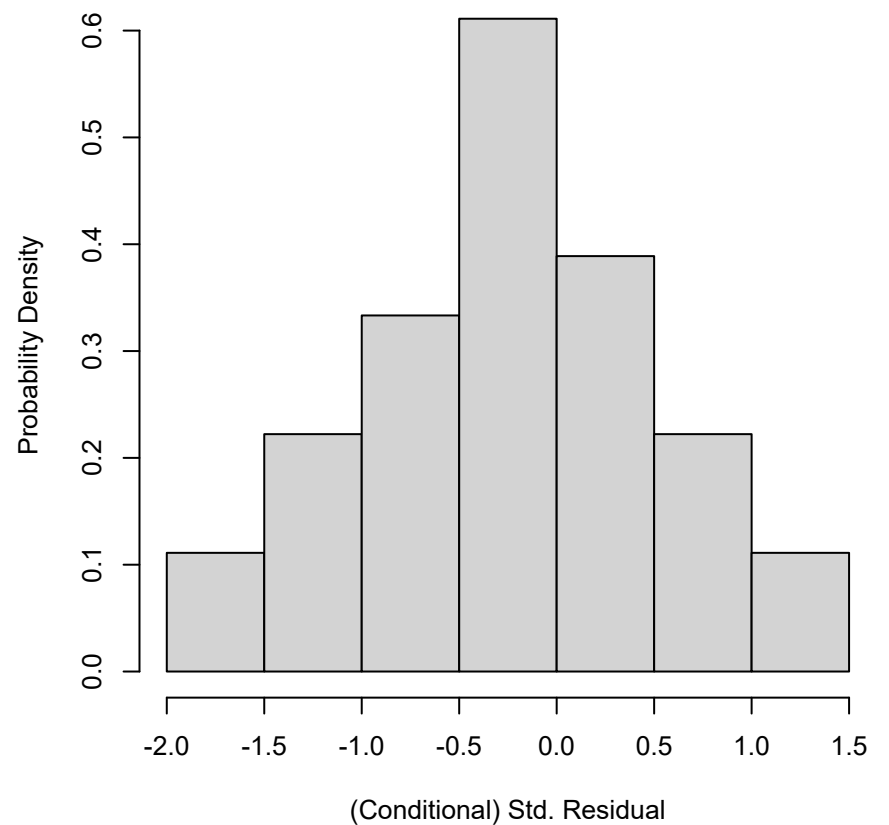
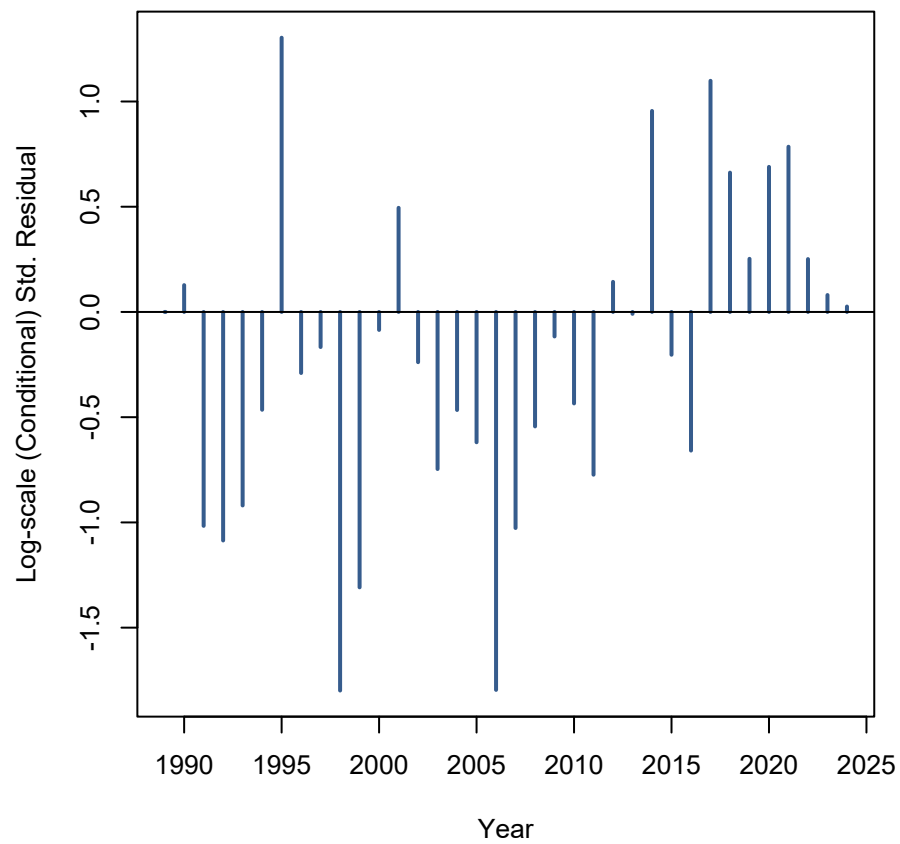
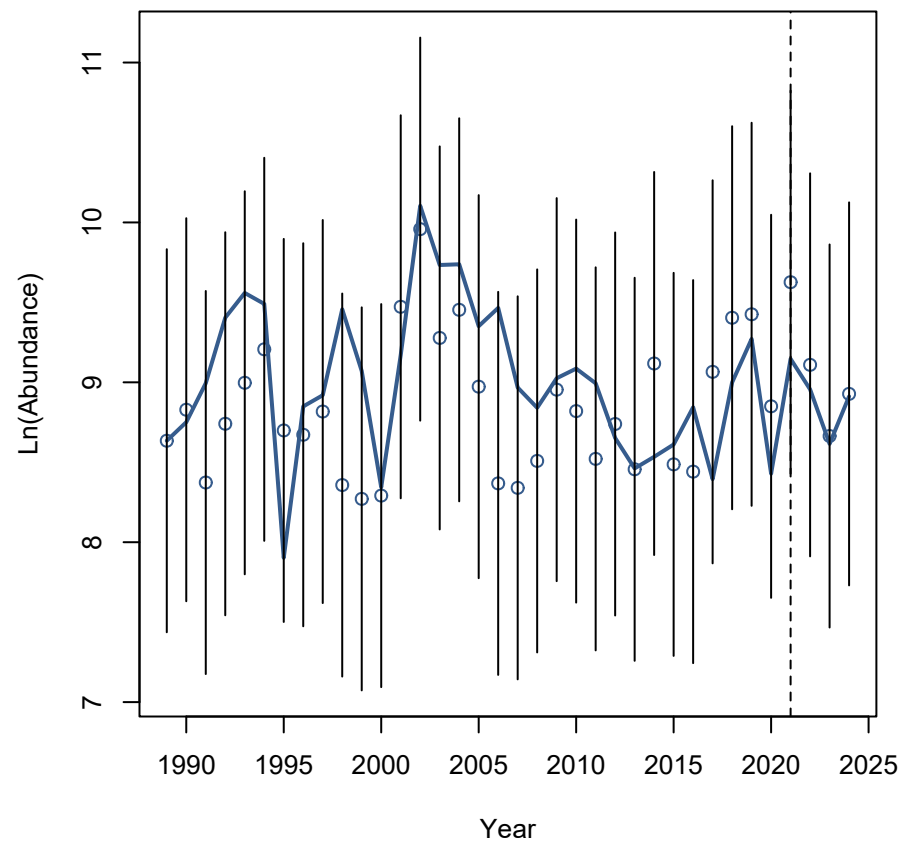
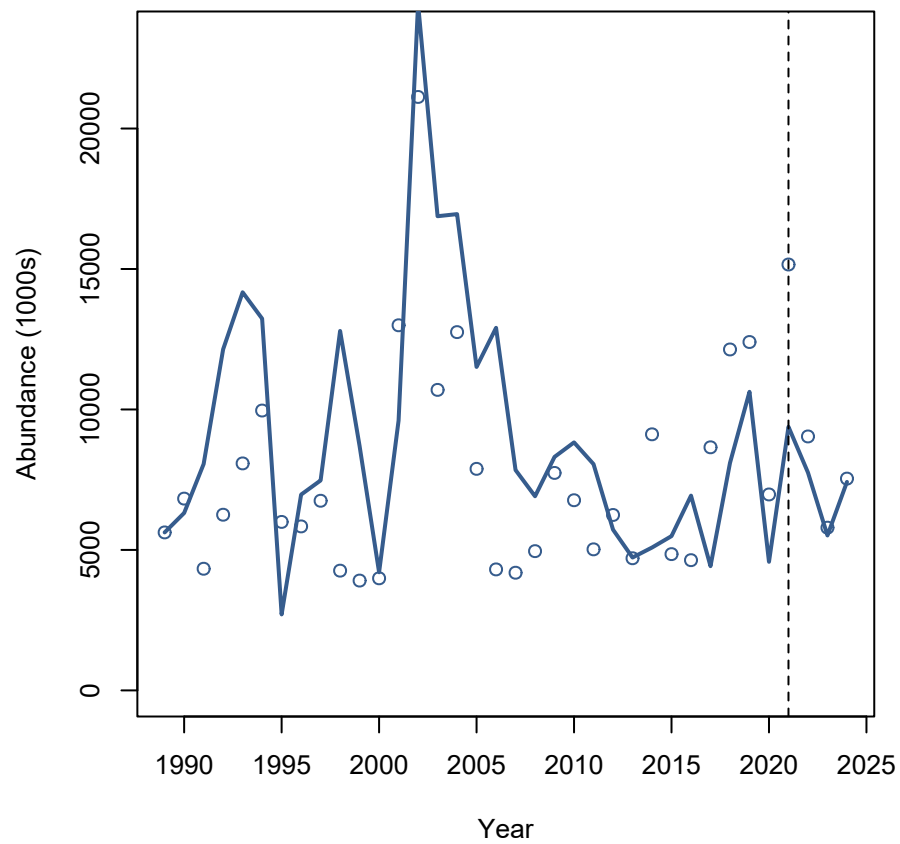
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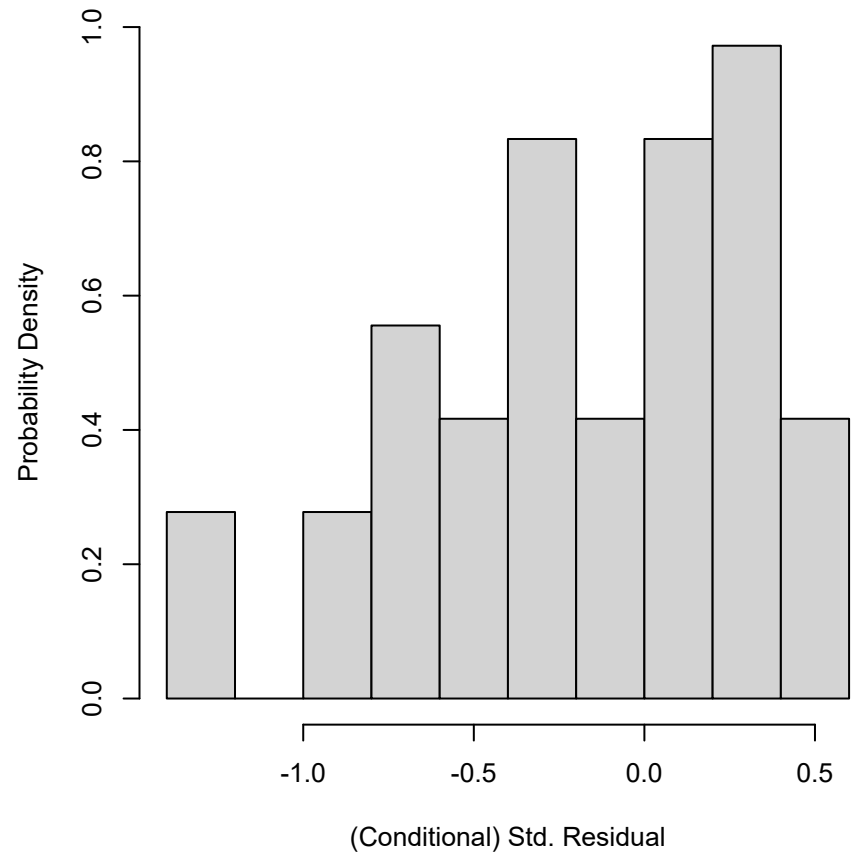
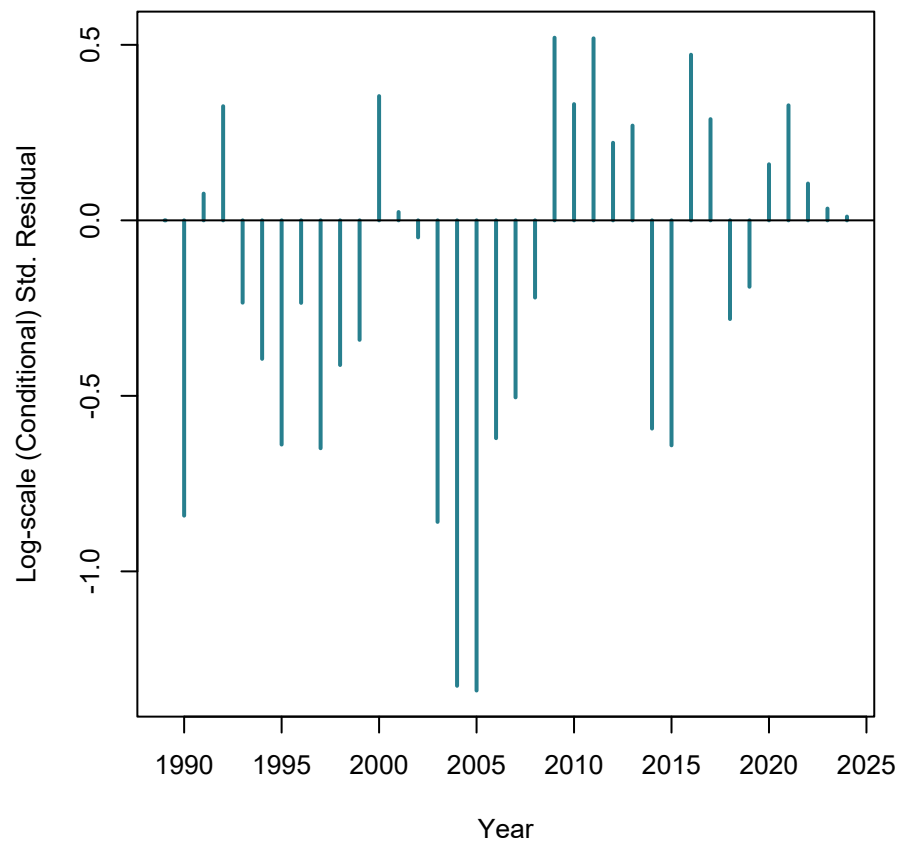
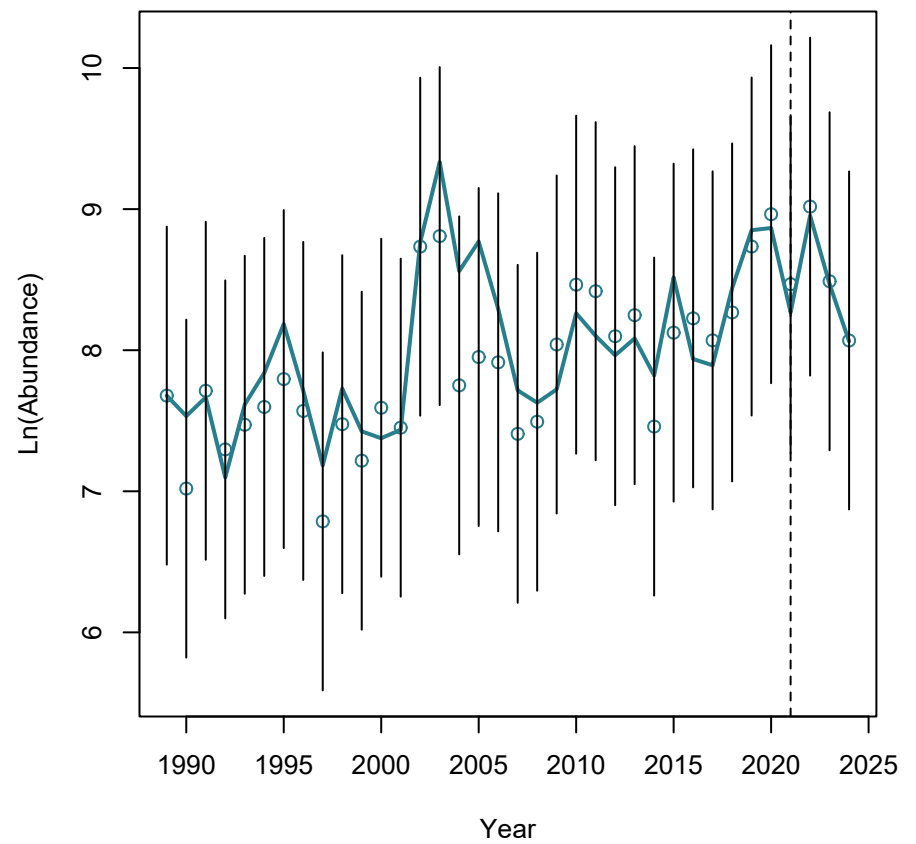
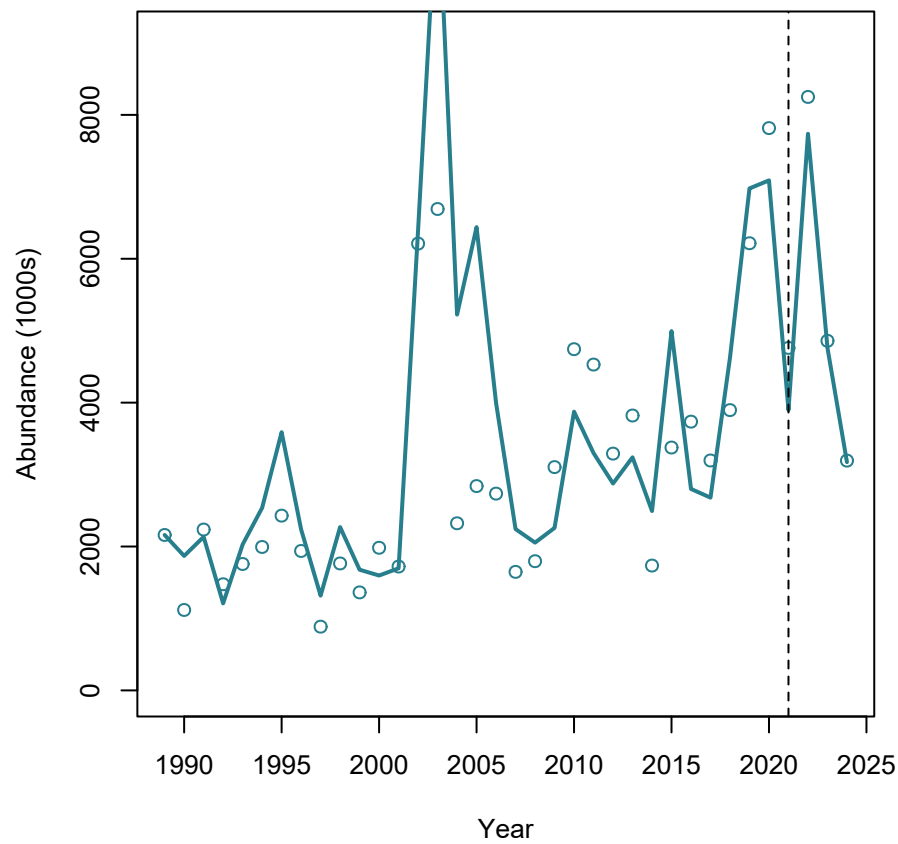
Conditional Expected and Posterior Estimates of Age 2 Abundance



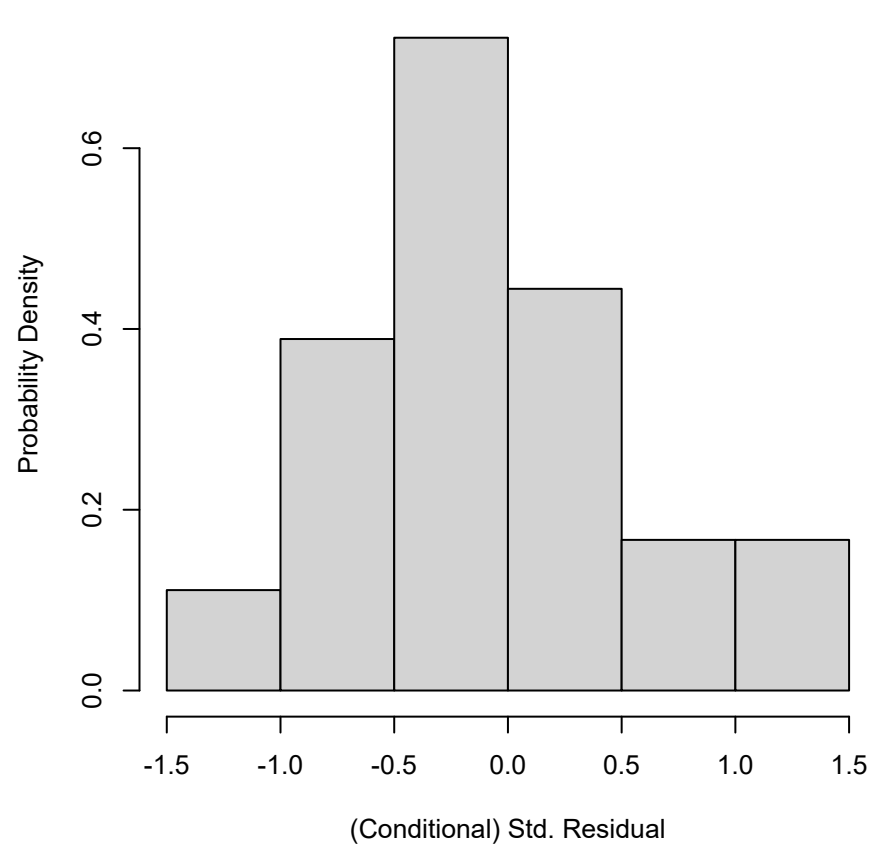
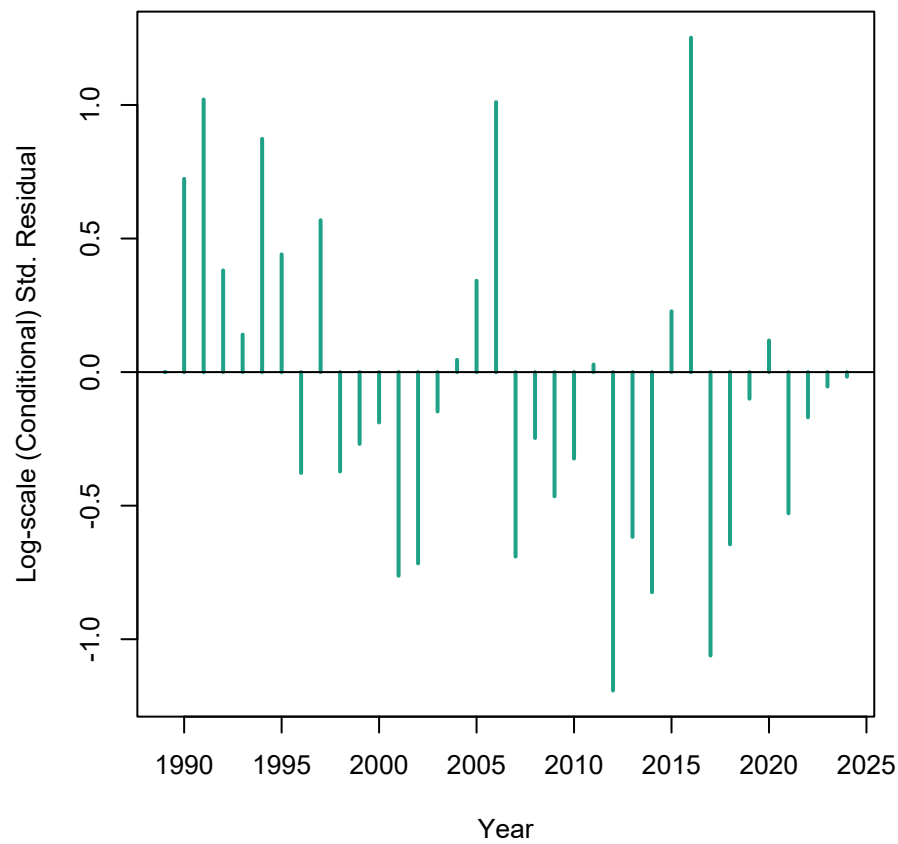
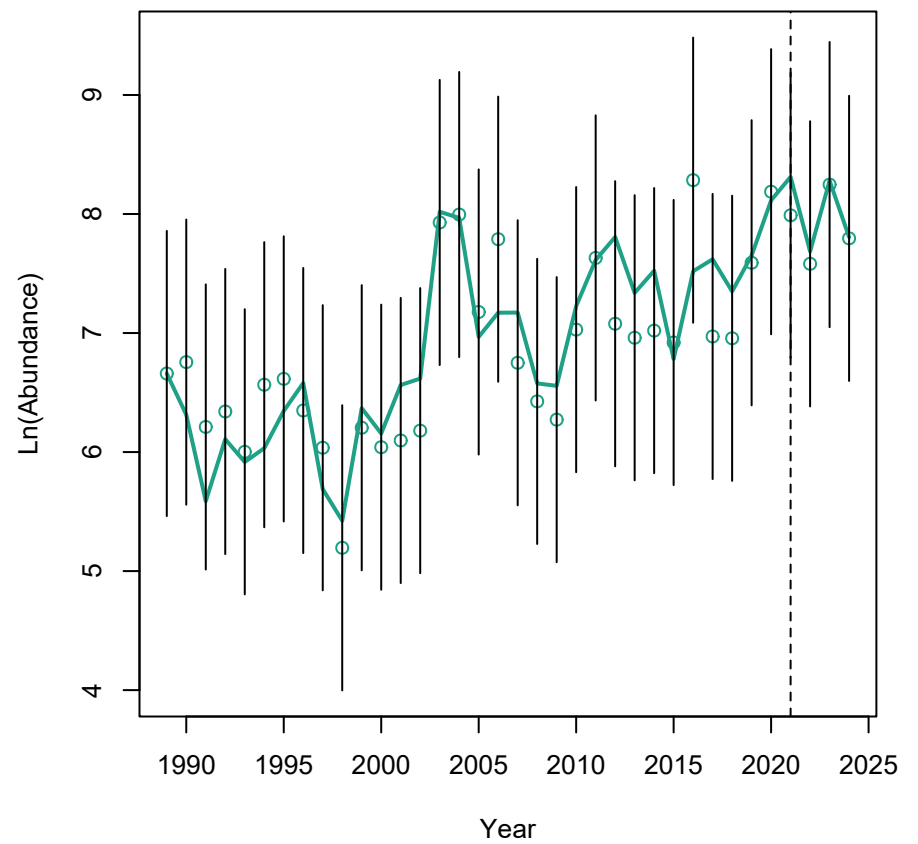
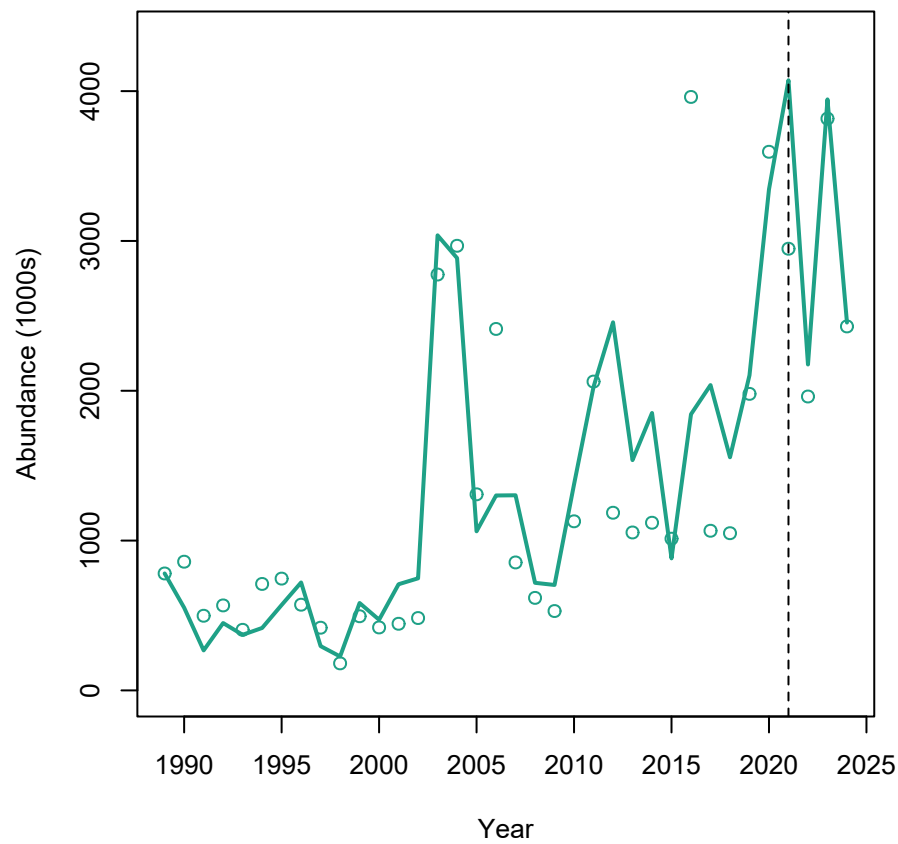
Conditional Expected and Posterior Estimates of Age 3 Abundance



Conditional Expected and Posterior Estimates of Age 4 Abundance

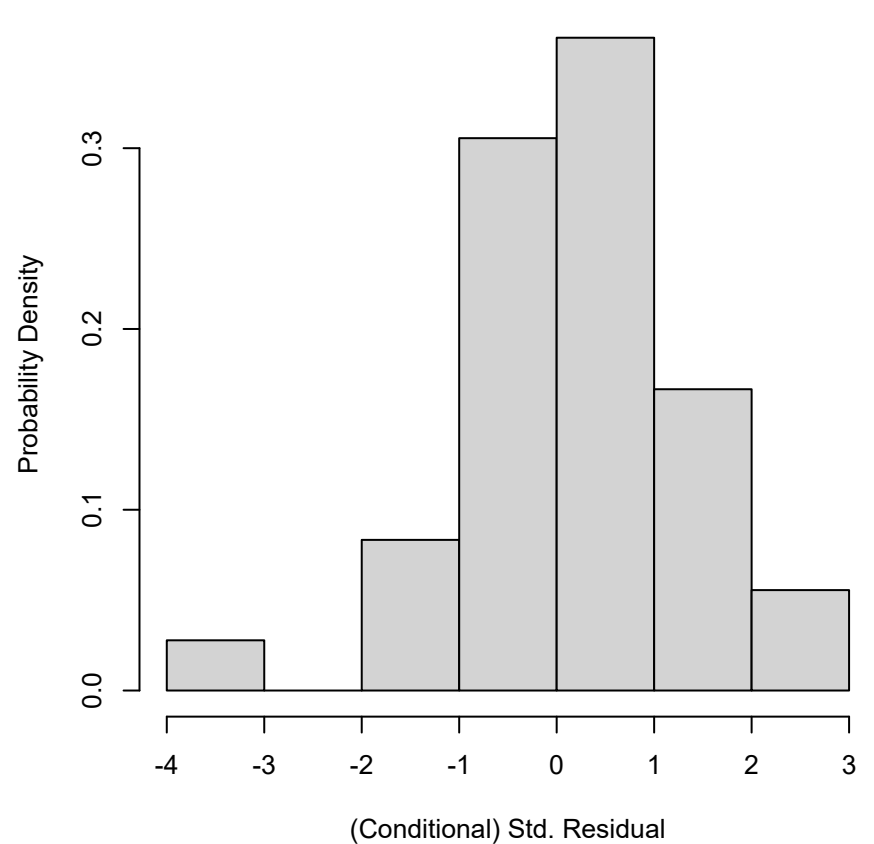
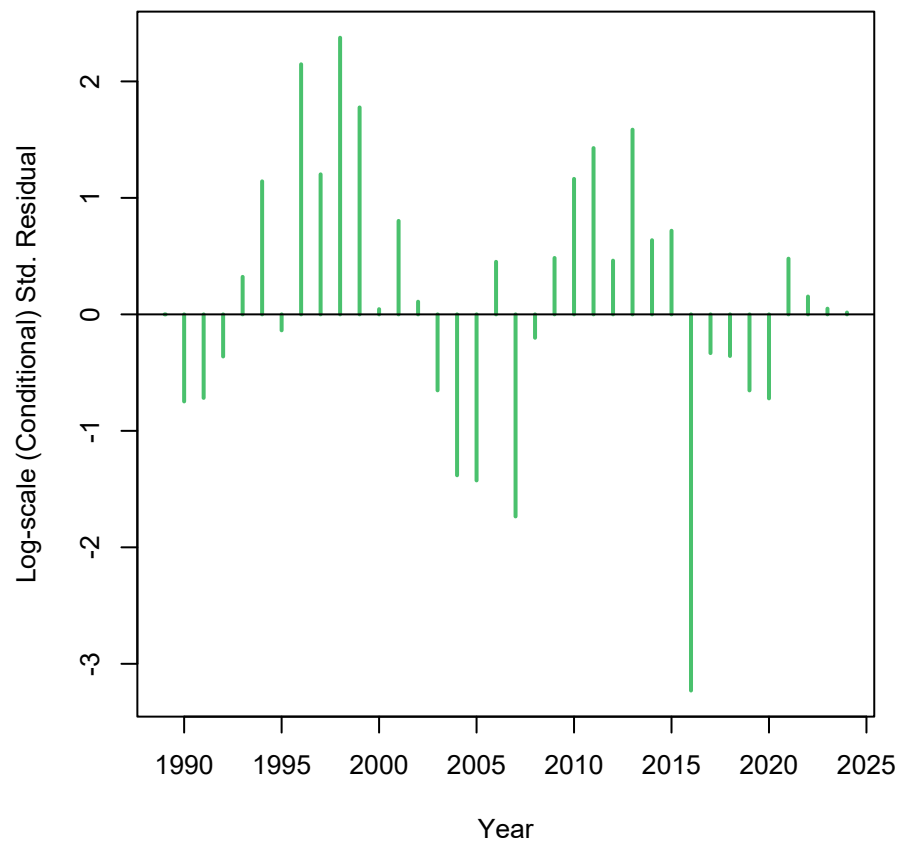
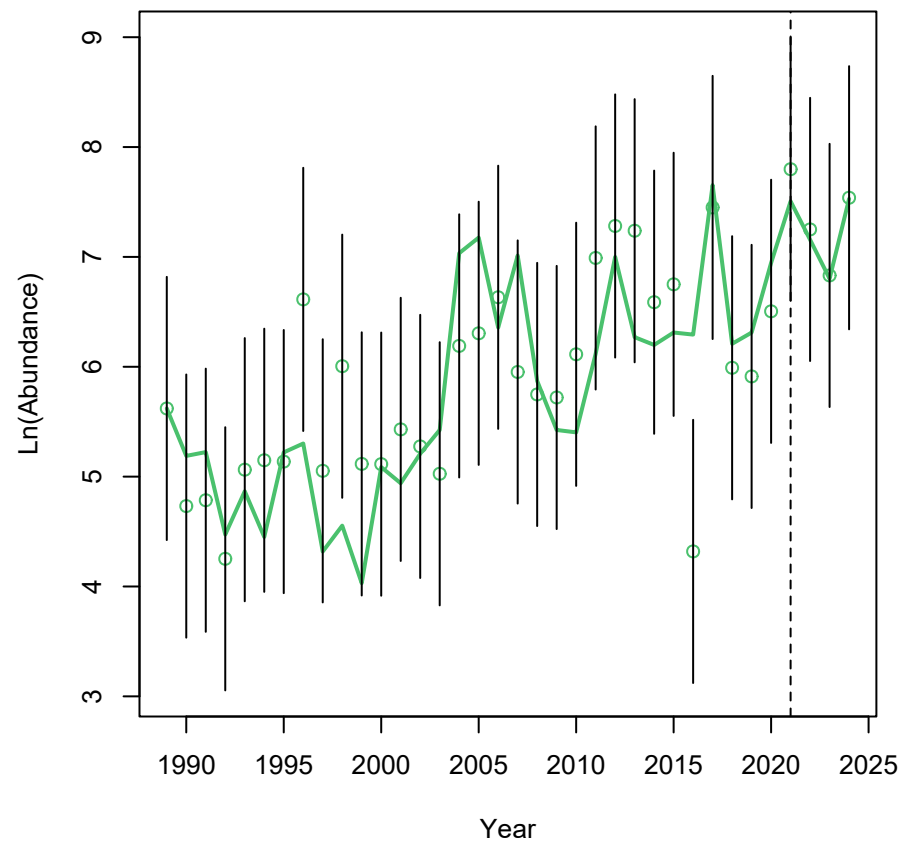
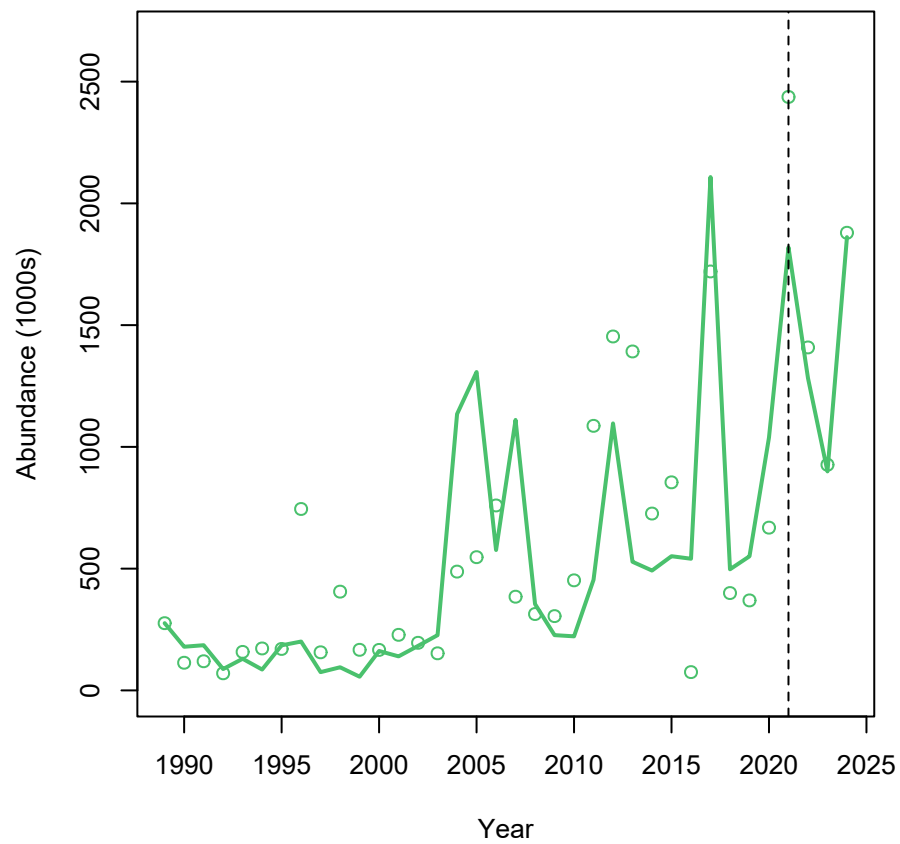


# Conditional Expected and Posterior Estimates of Age 5 Abundance

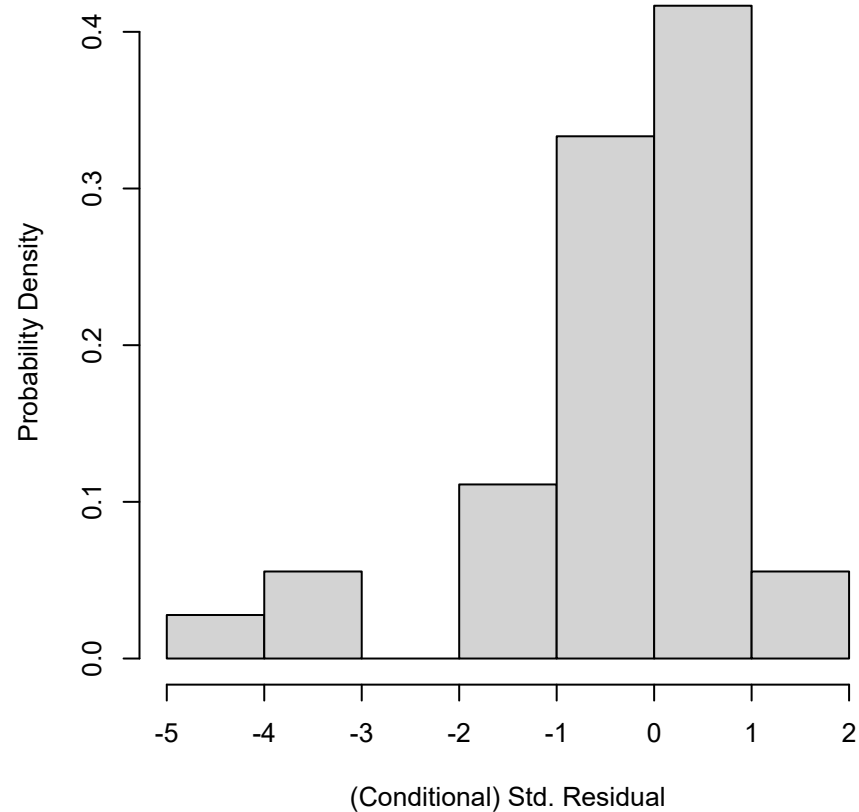
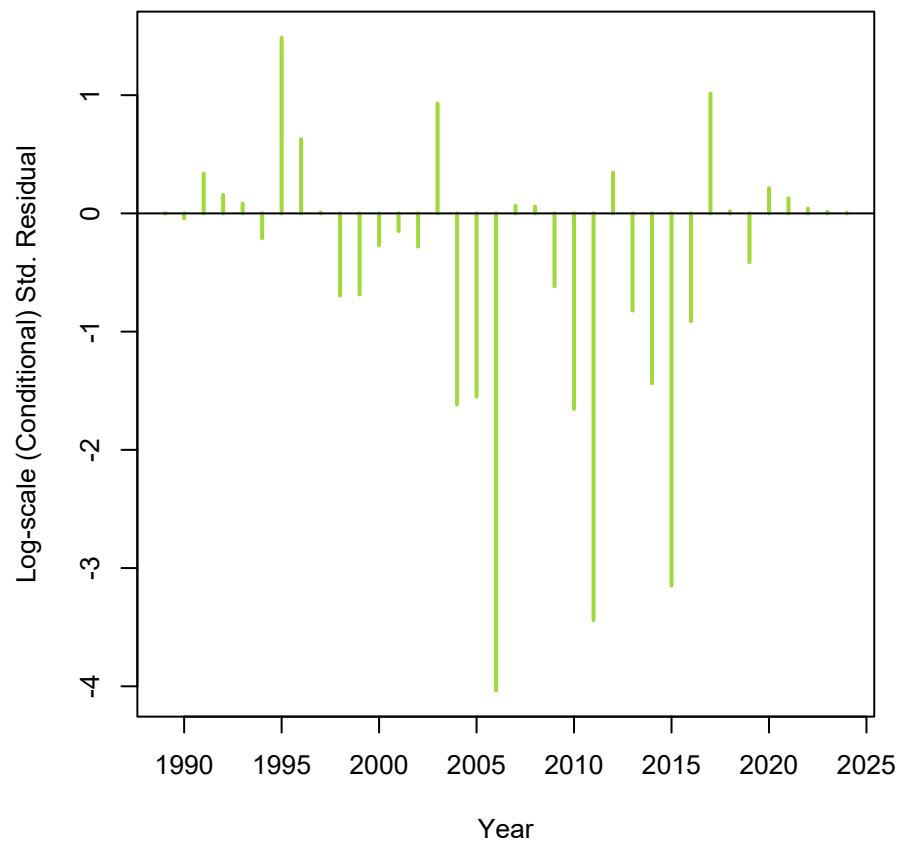
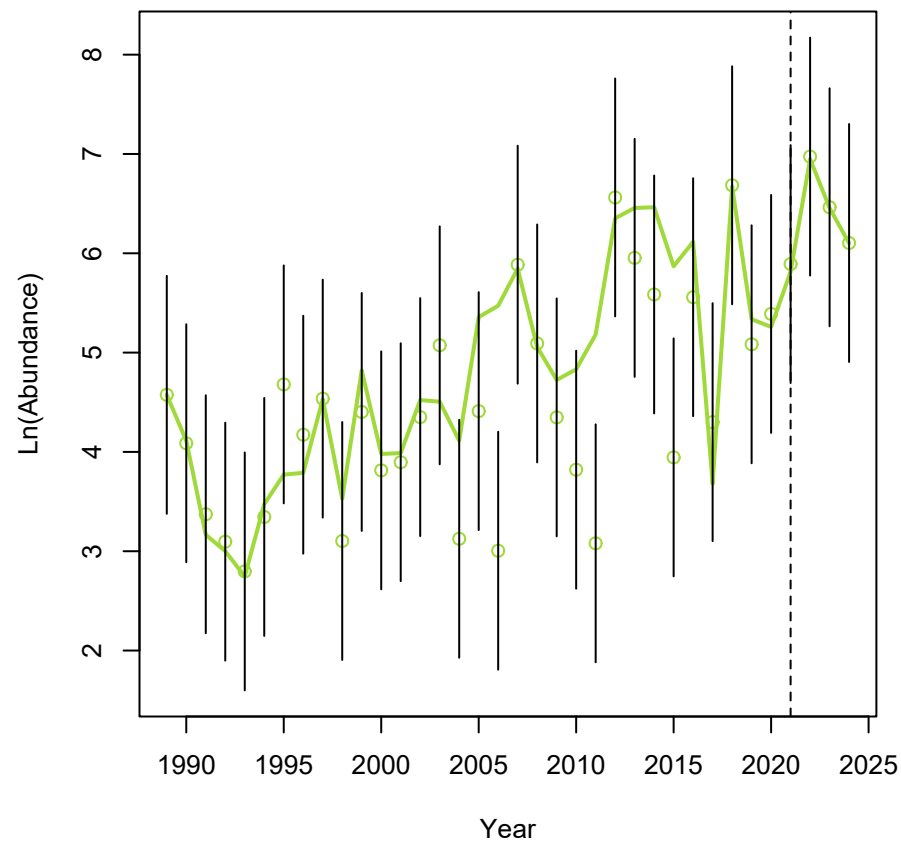
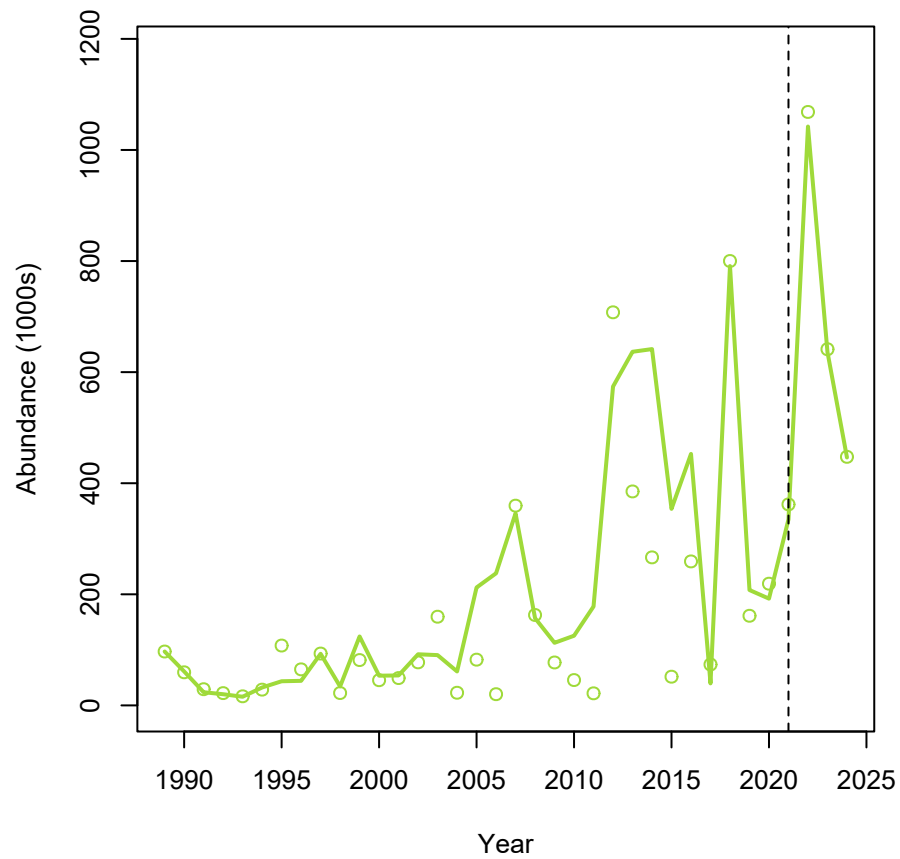




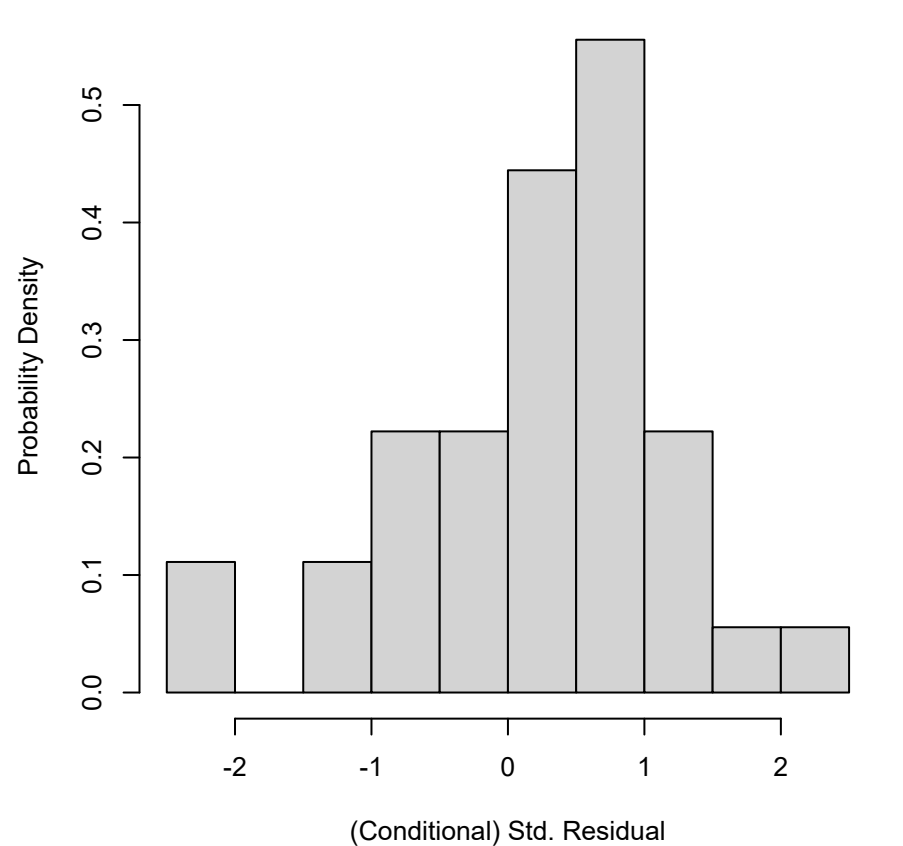
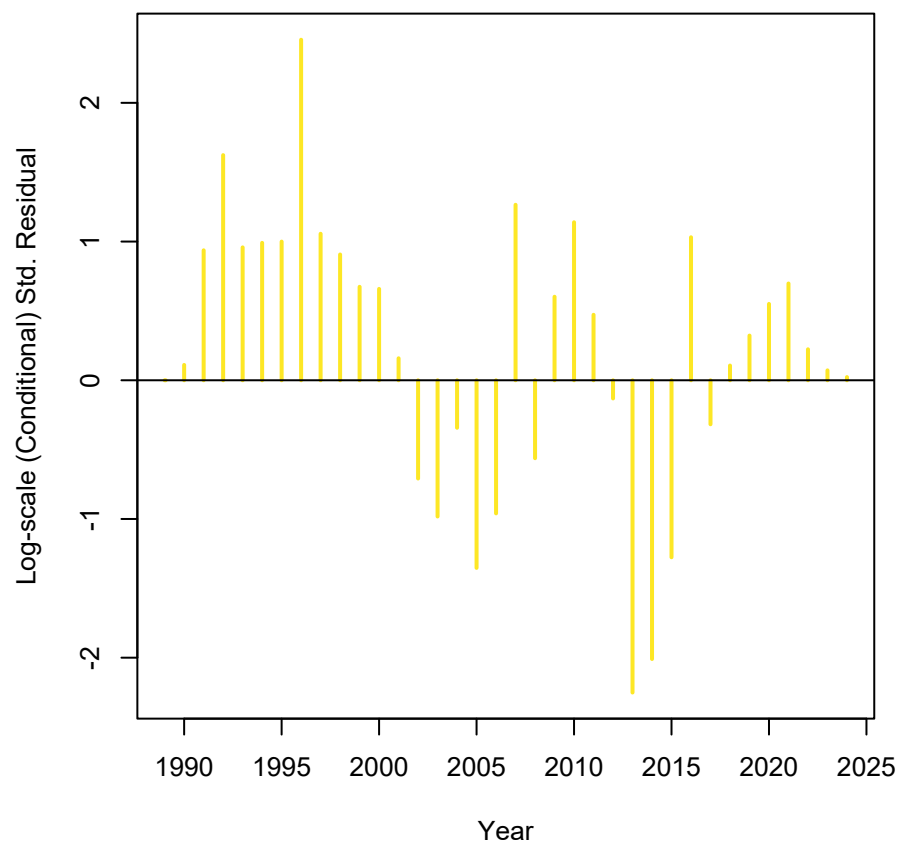
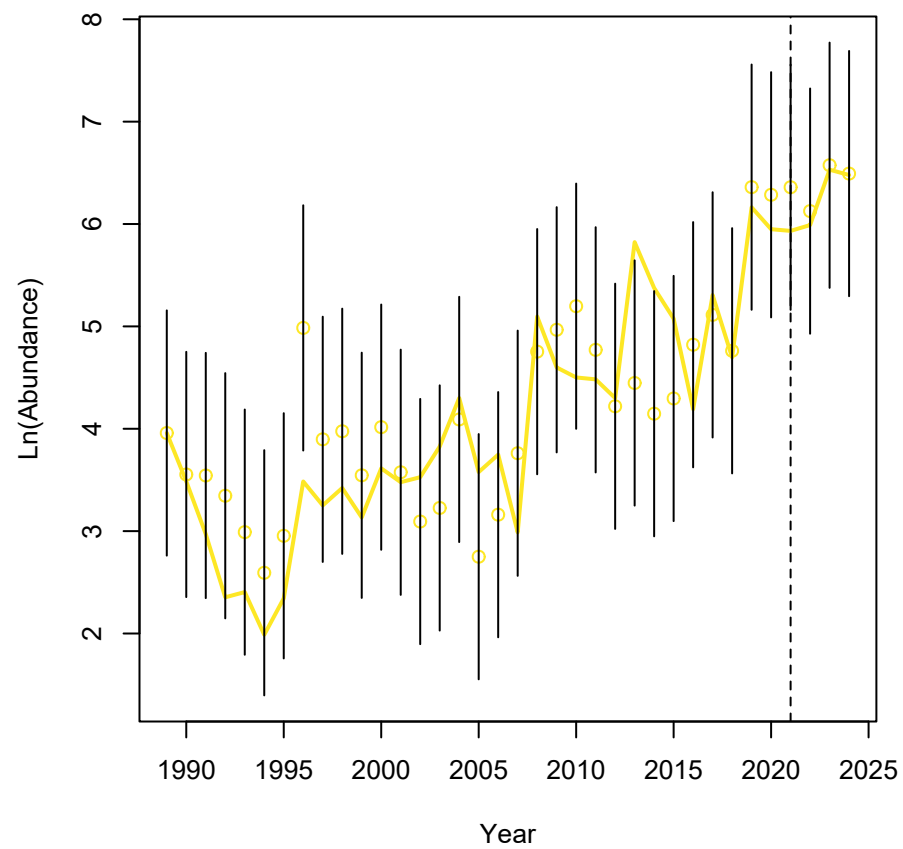
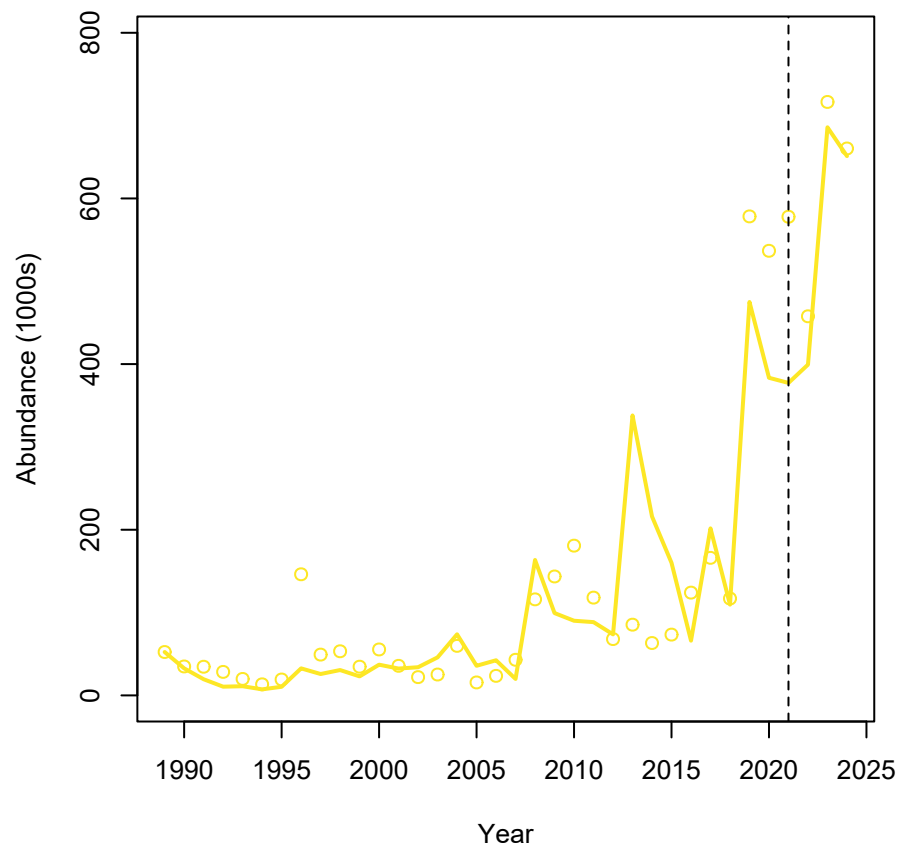
Conditional Expected and Posterior Estimates of Age 6 Abundance



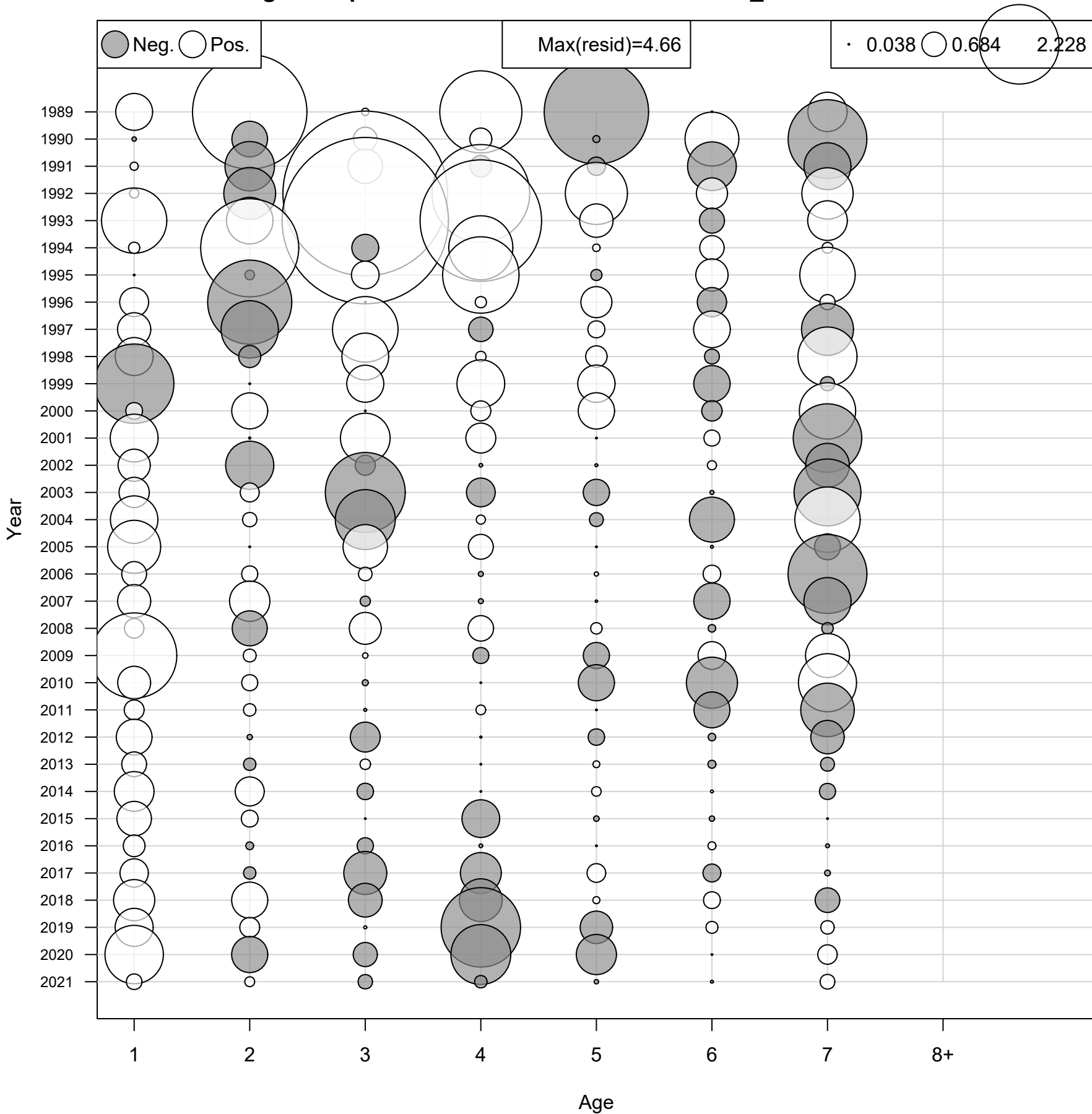
Conditional Expected and Posterior Estimates of Age 7 Abundance



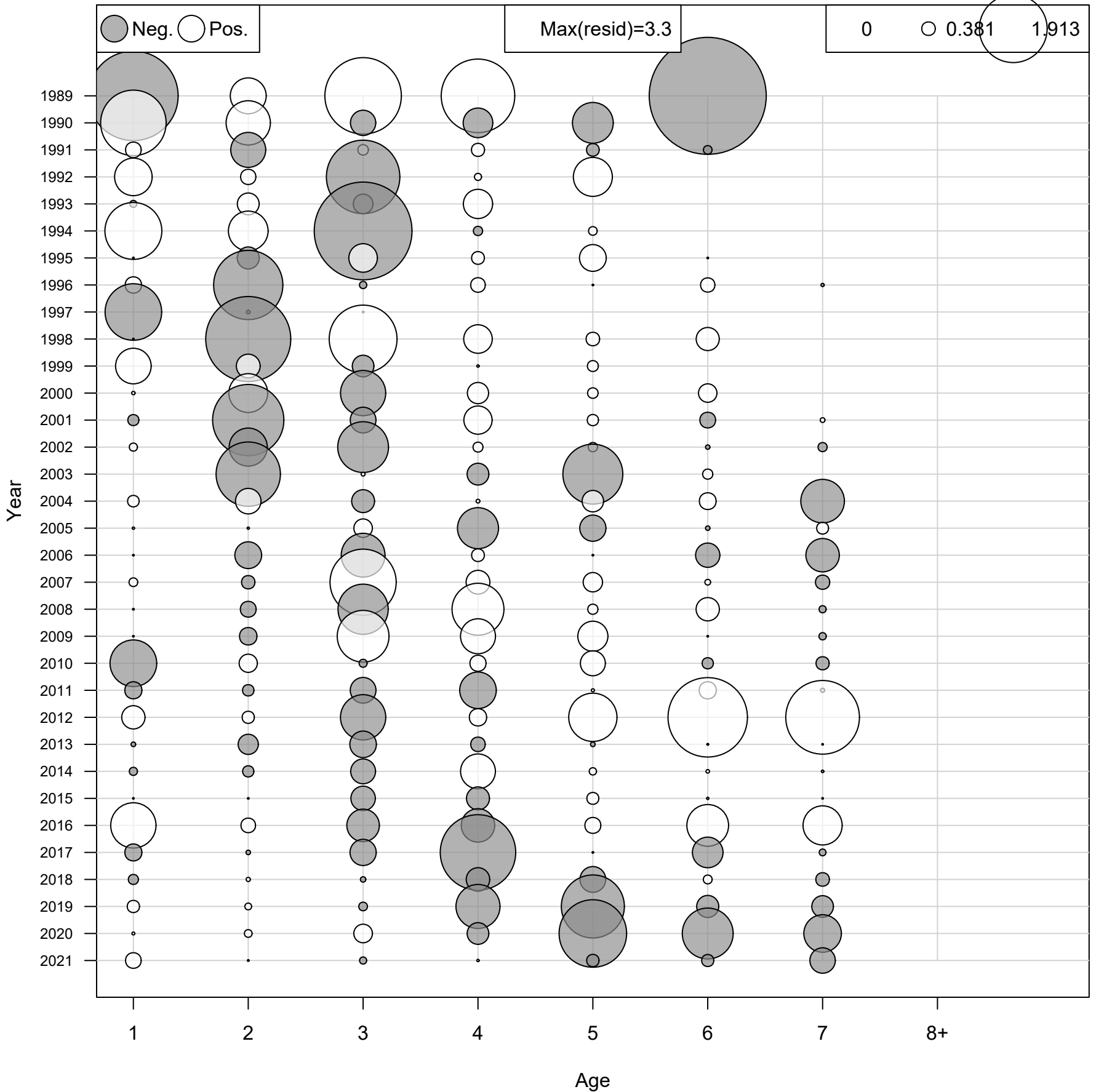
# Conditional Expected and Posterior Estimates of Age 8 Abundance



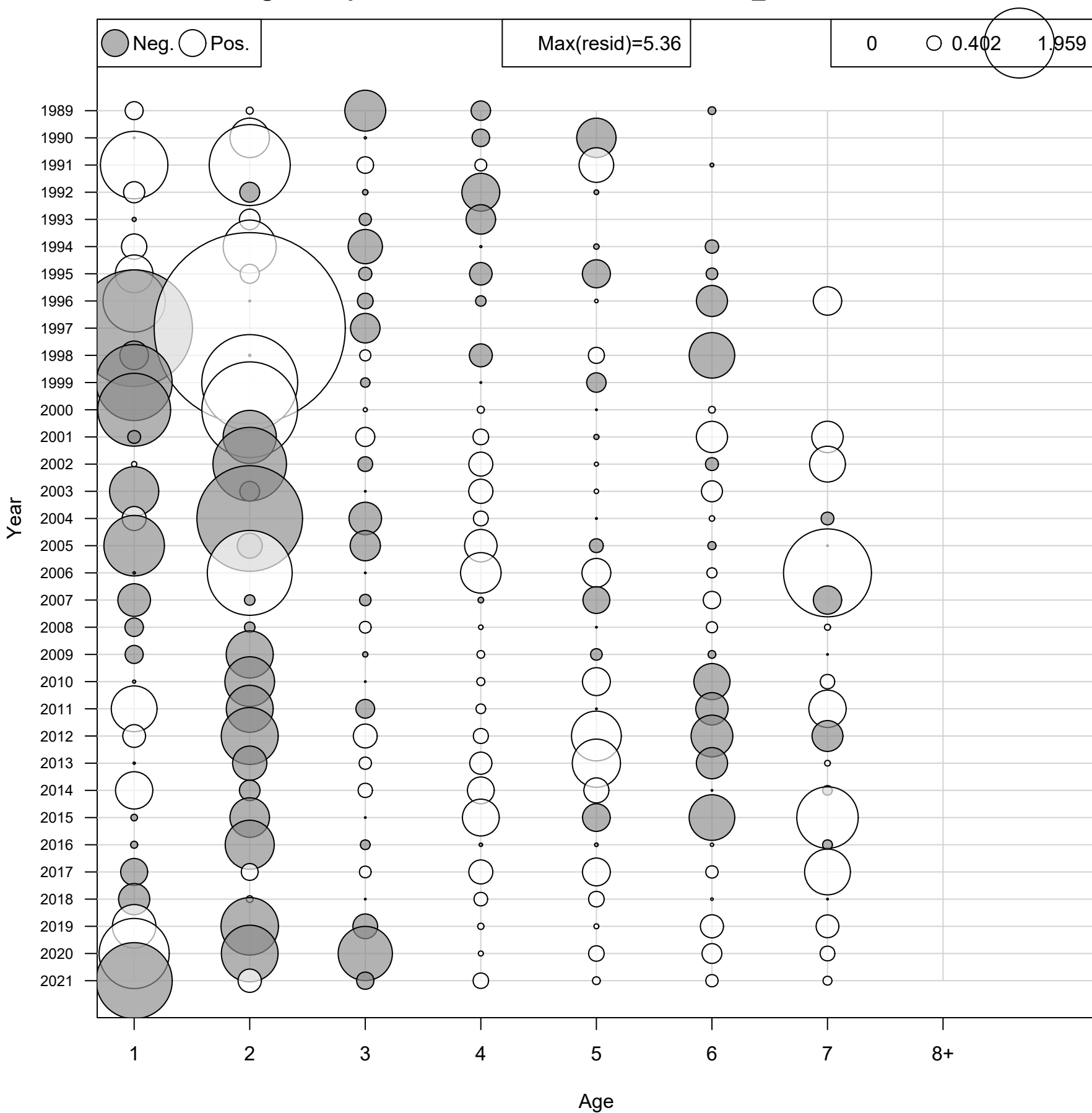
# Age Comp OSA Quantile Residuals for North\_Commercial



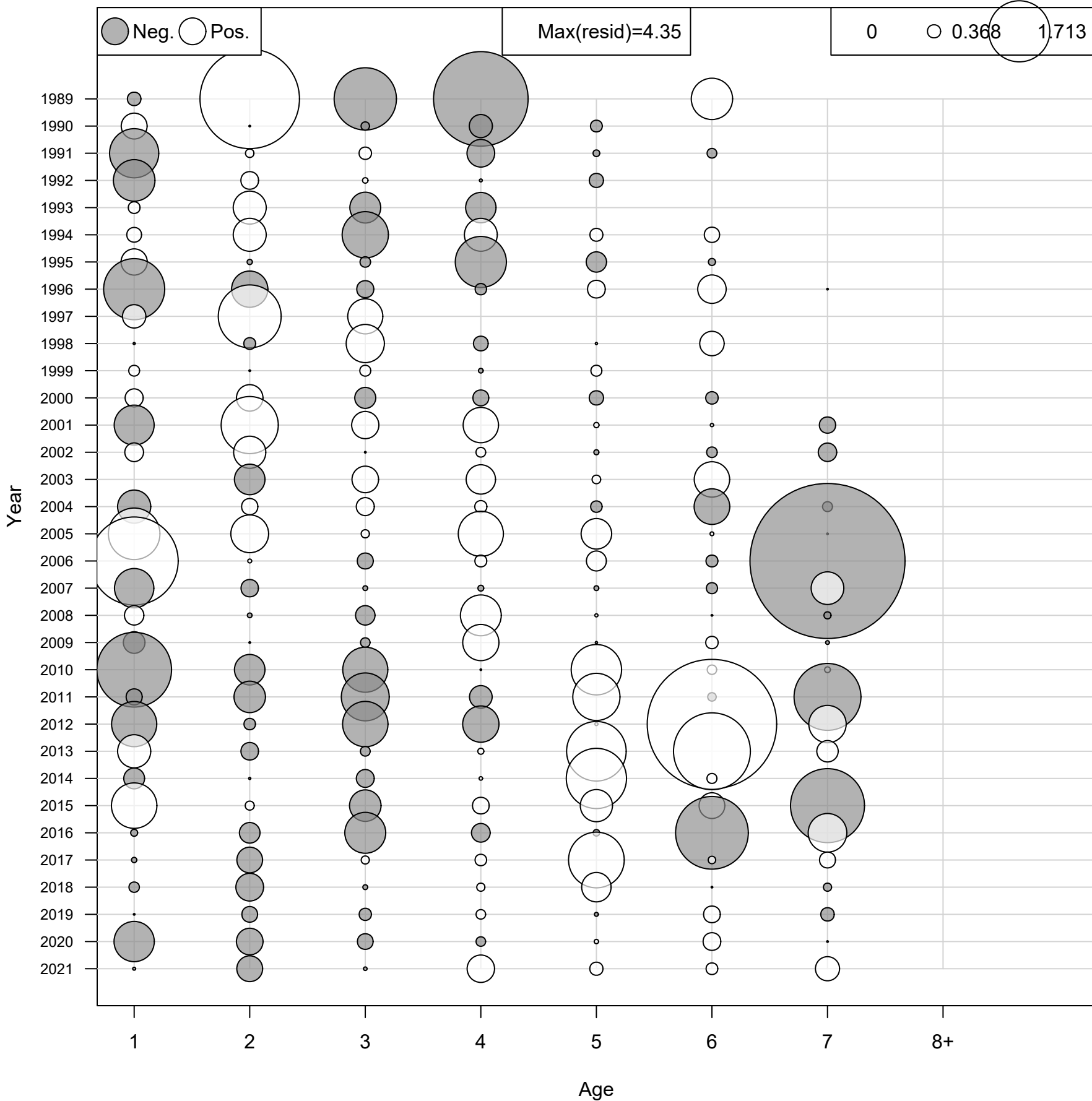
# Age Comp OSA Quantile Residuals for North\_Recreational



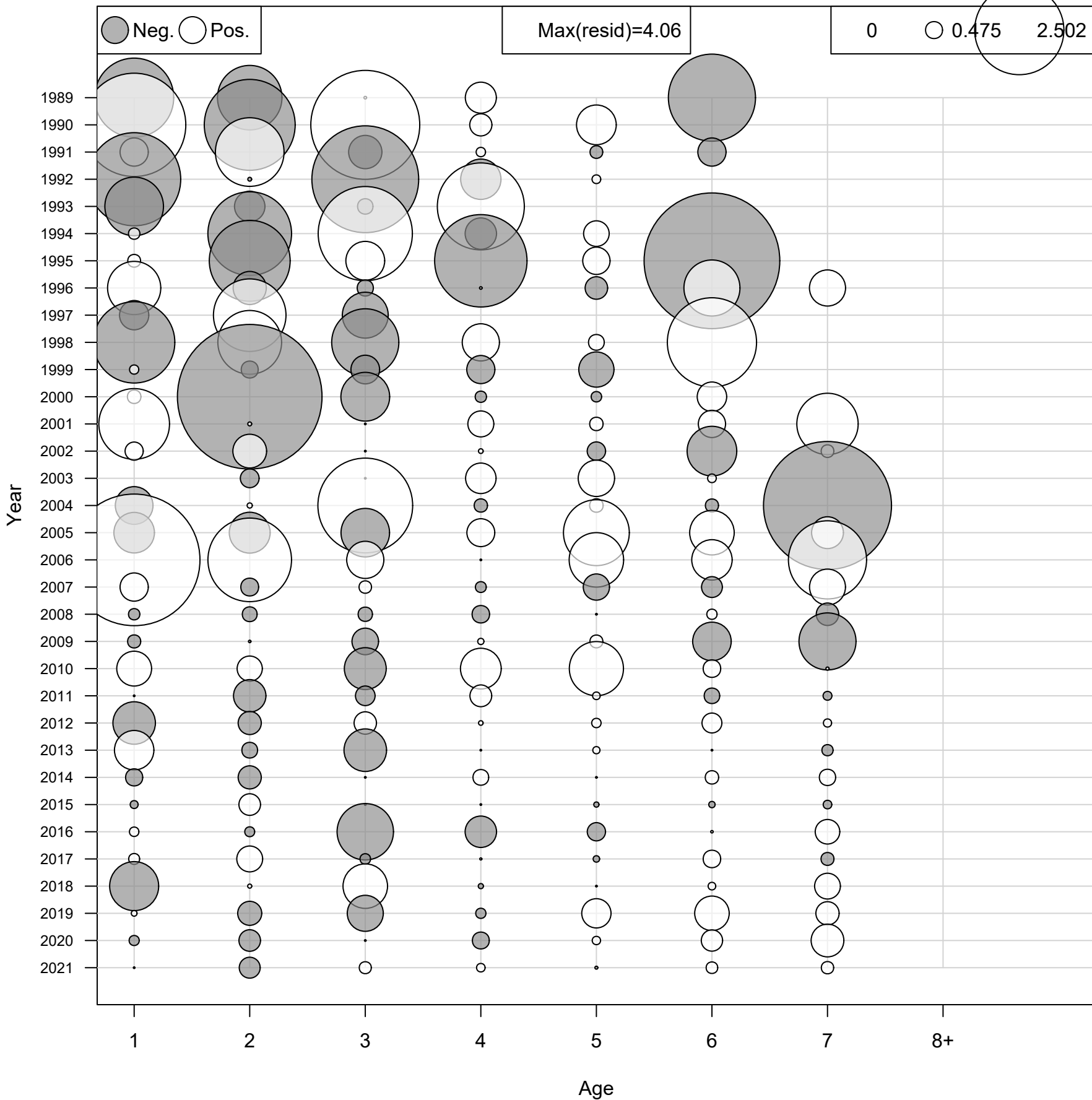
# Age Comp OSA Quantile Residuals for South\_Commercial



# Age Comp OSA Quantile Residuals for South\_Recreational

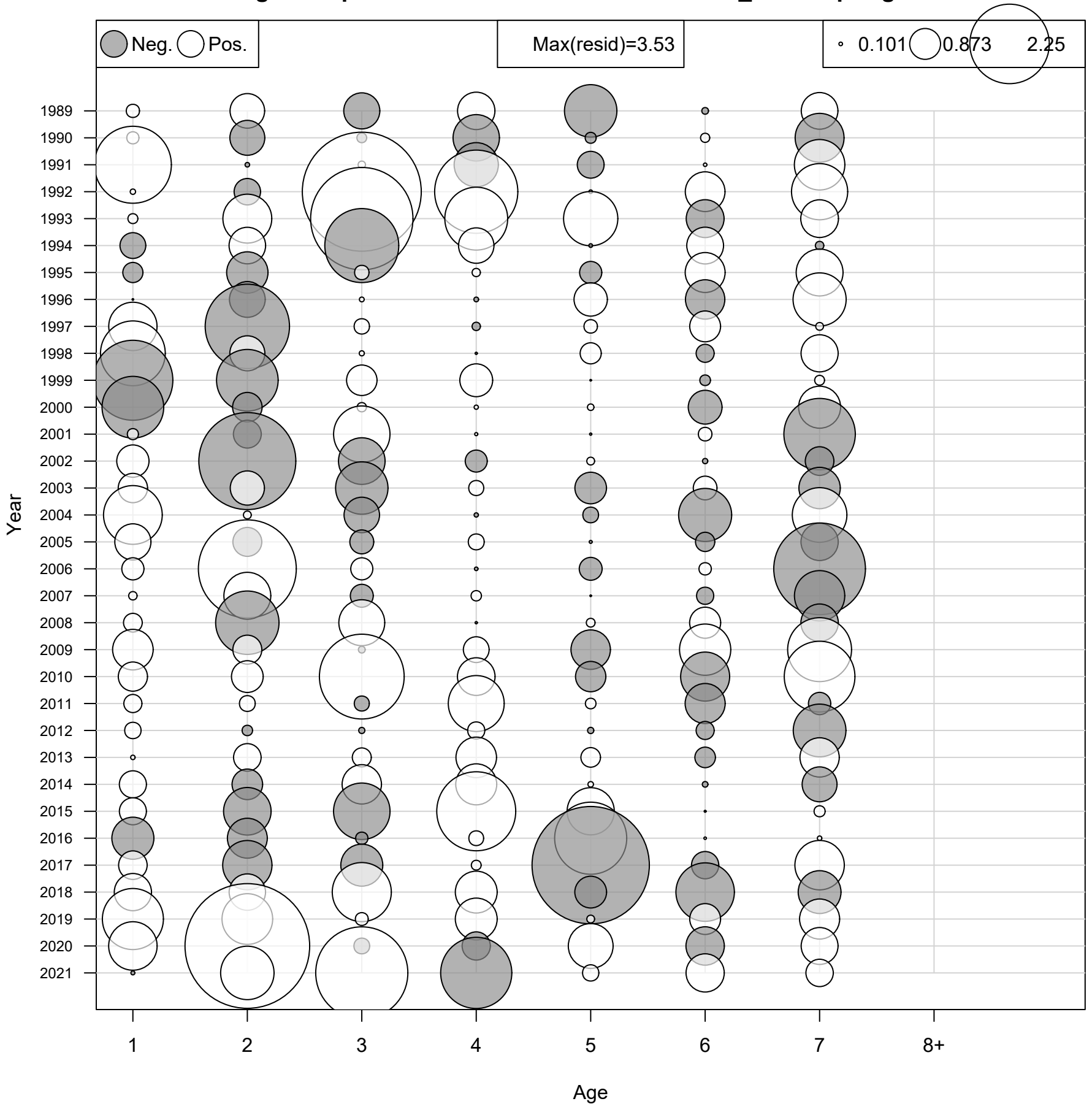


# Age Comp OSA Quantile Residuals for North\_REC CPA

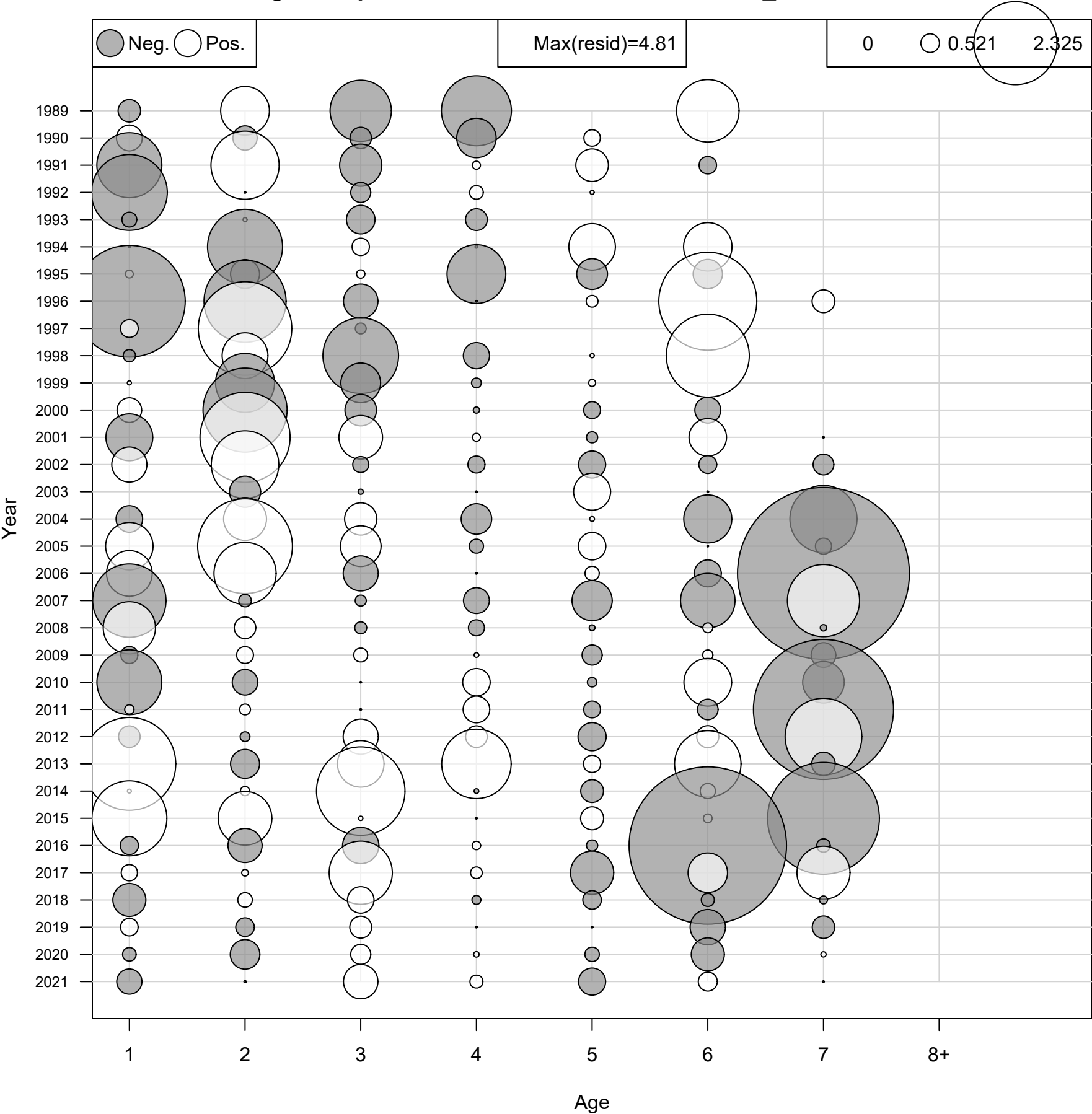




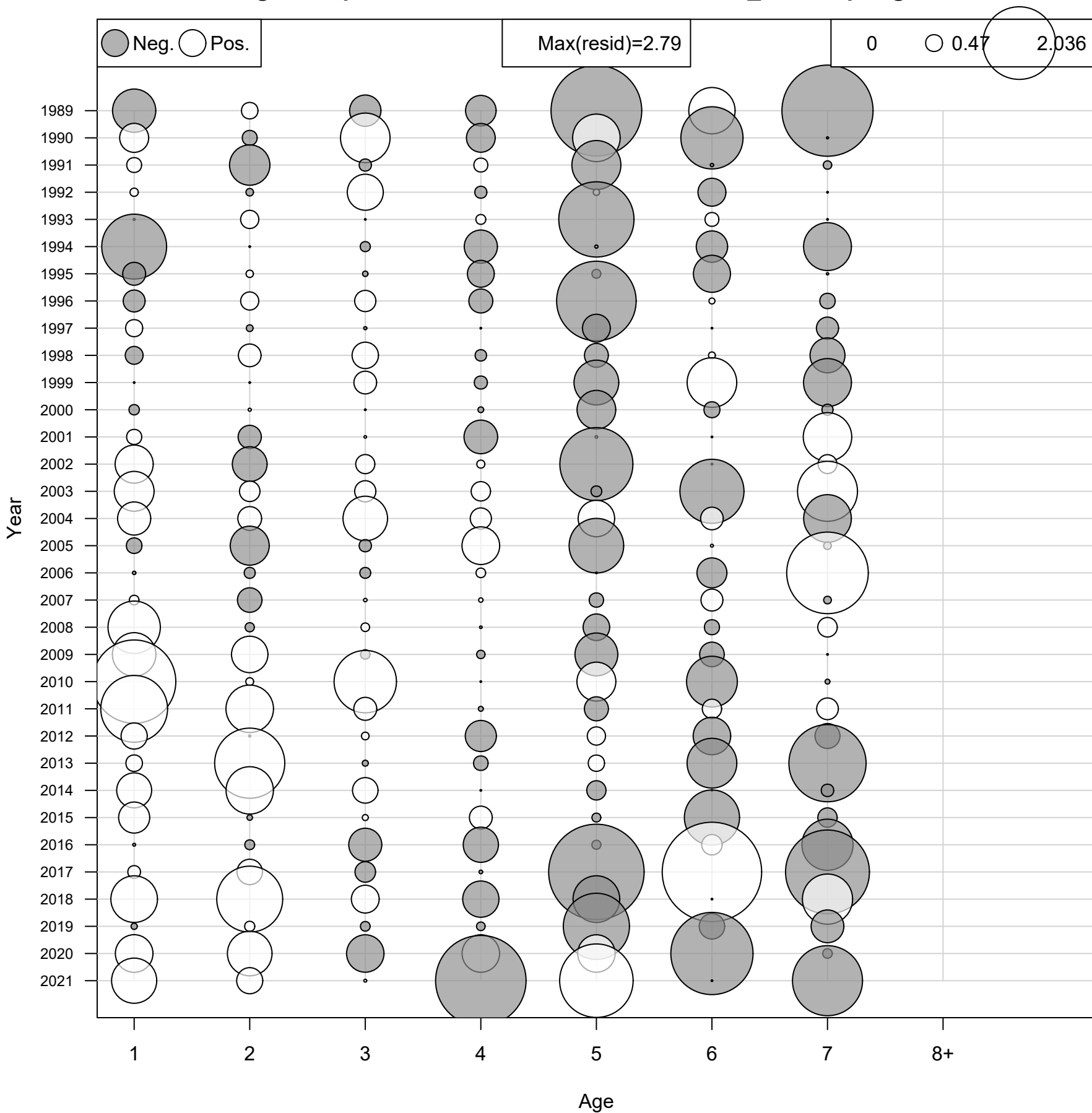
# Age Comp OSA Quantile Residuals for North\_VAST Spring



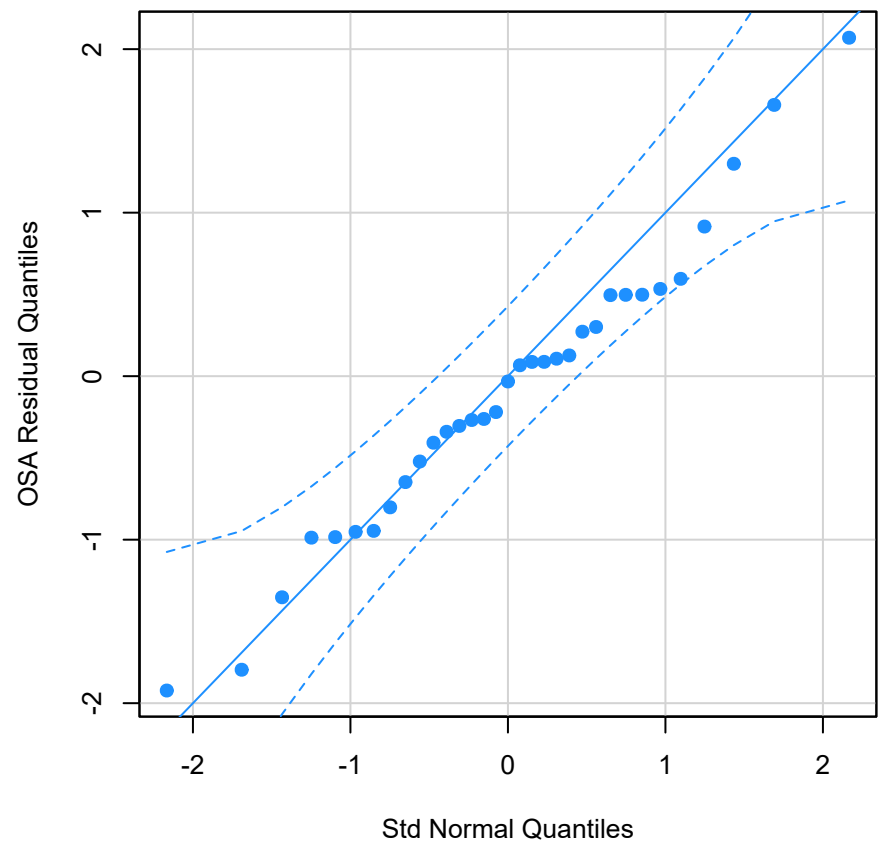
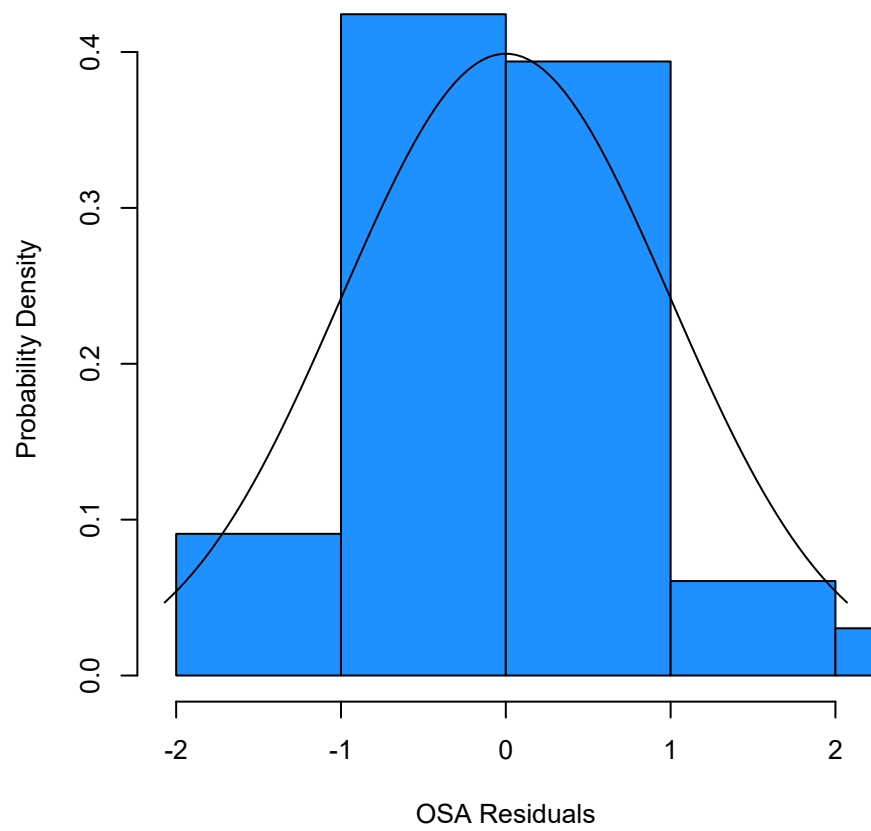
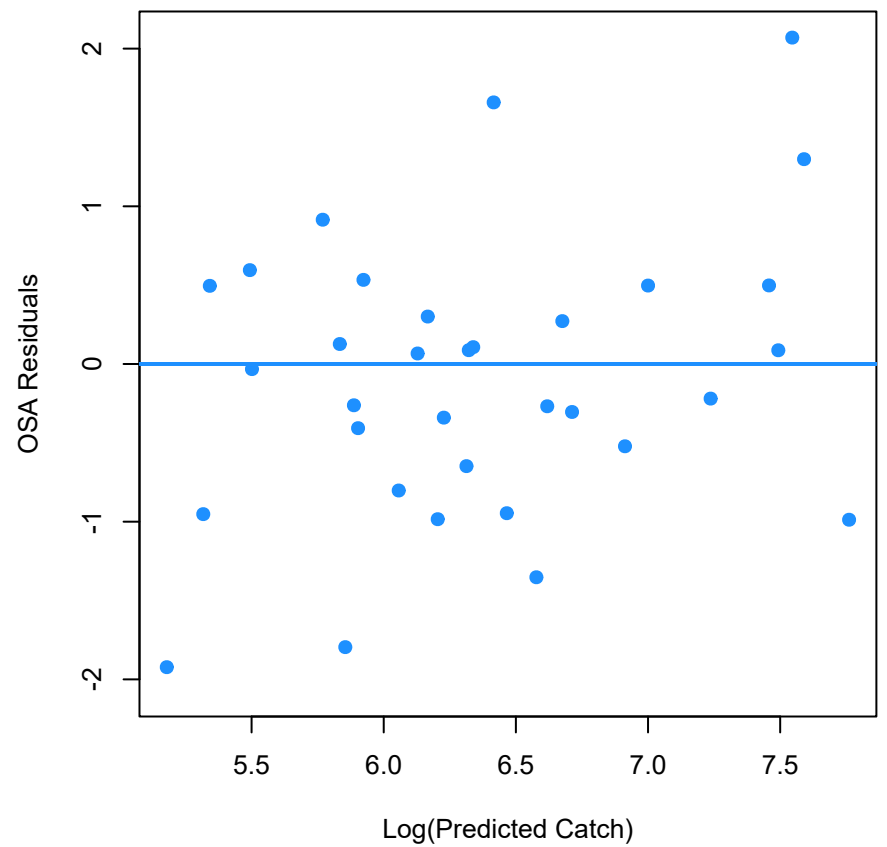
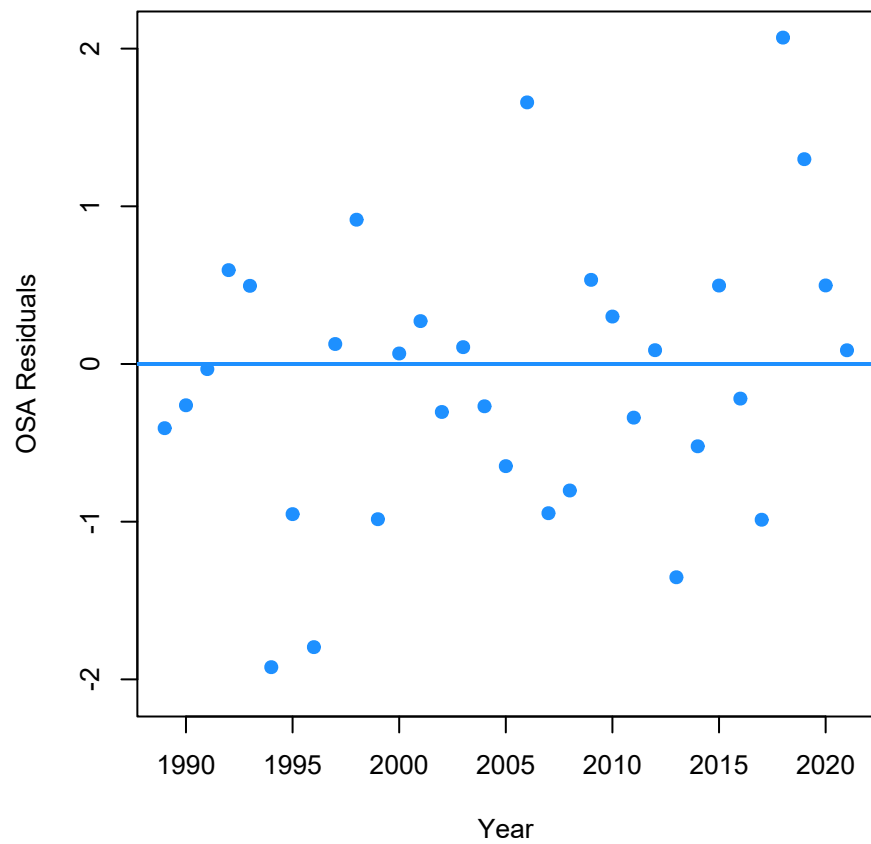
Age Comp OSA Quantile Residuals for South\_REC CPA



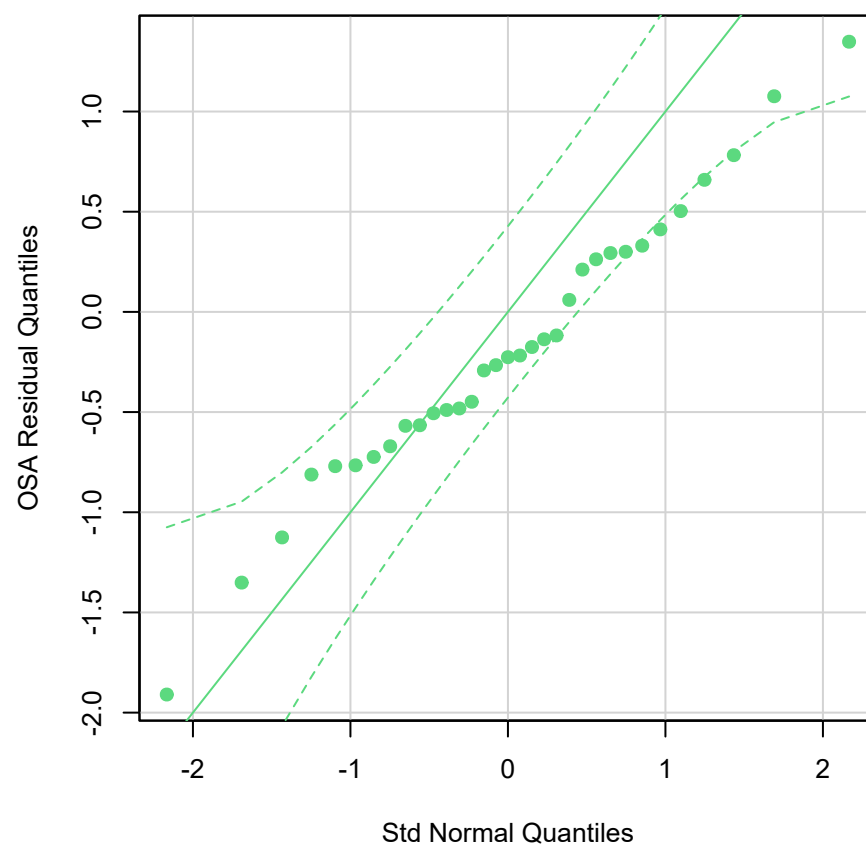
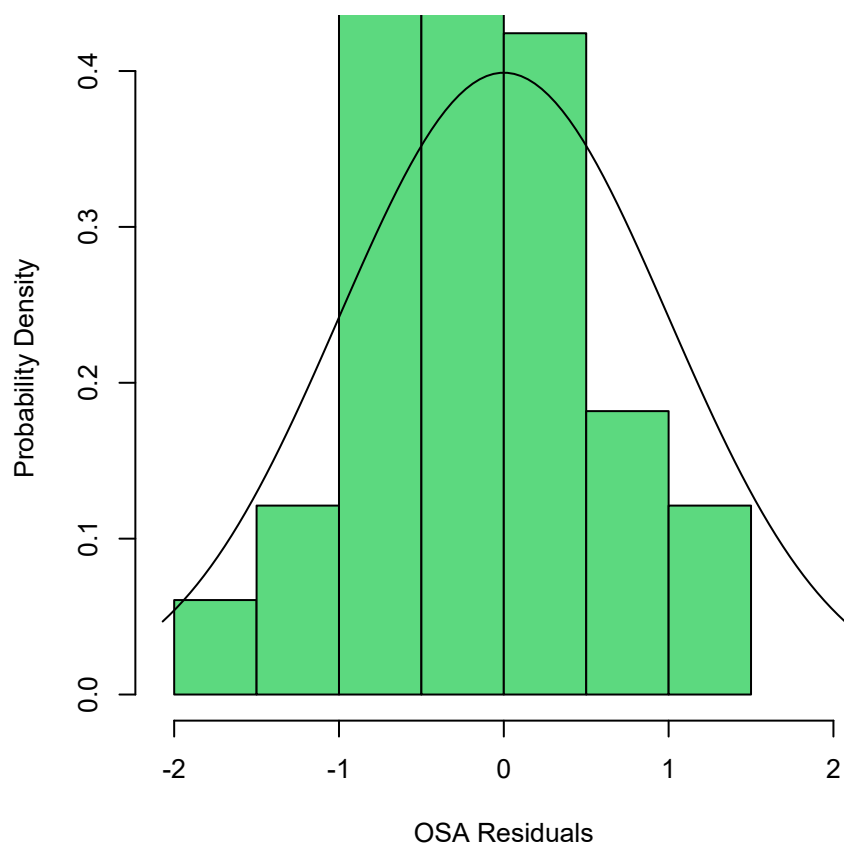
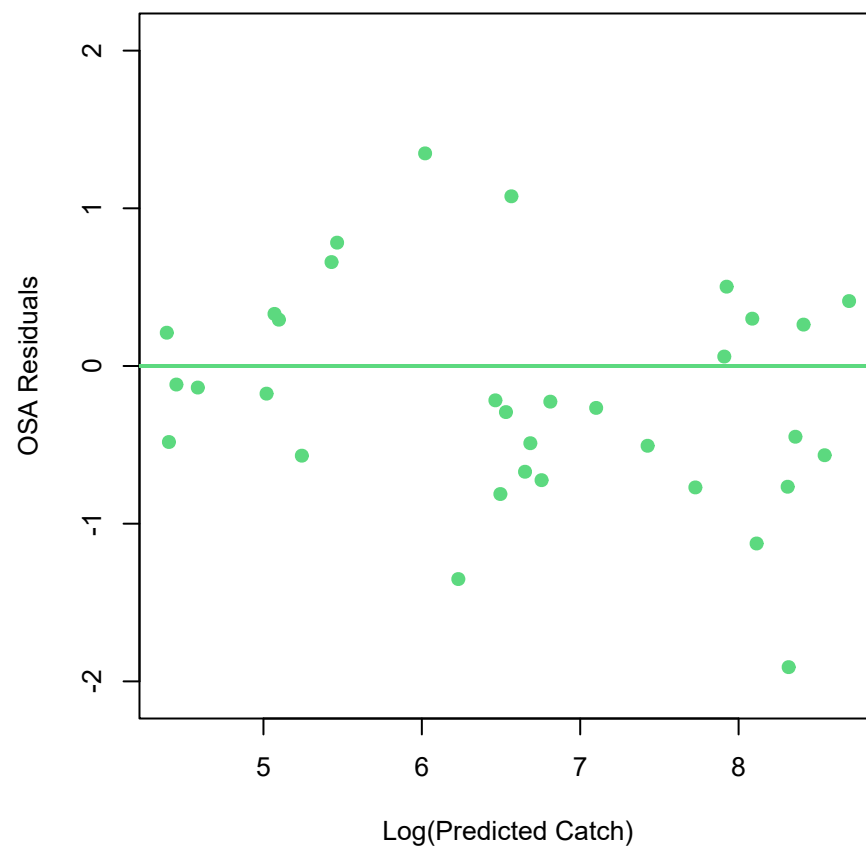
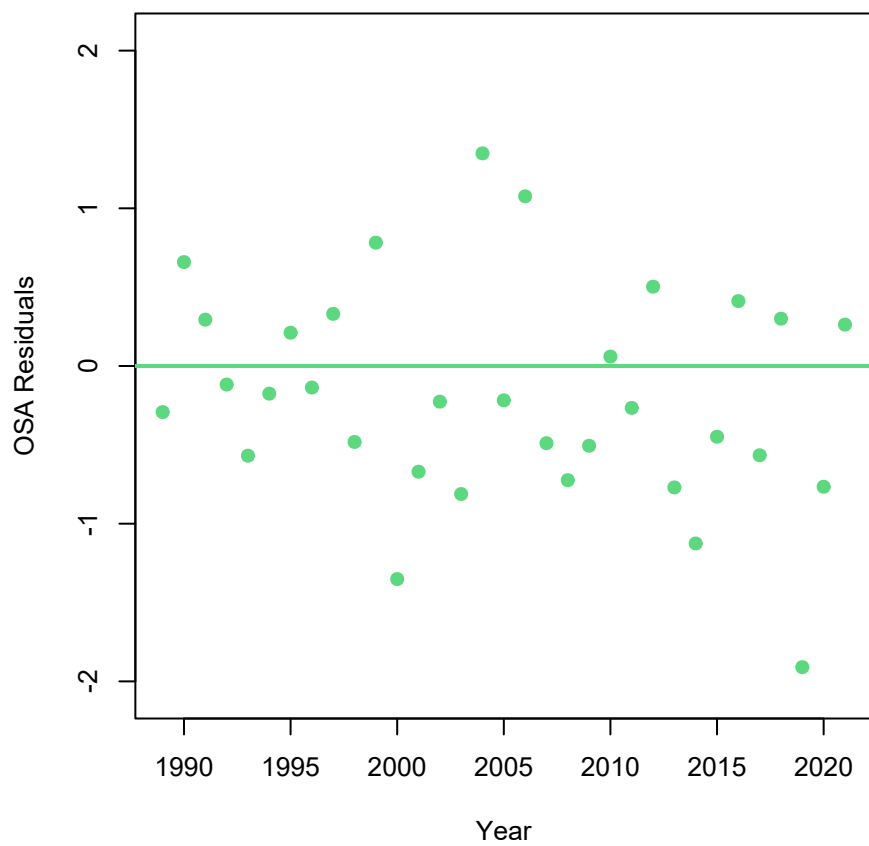
# Age Comp OSA Quantile Residuals for South\_VAST Spring



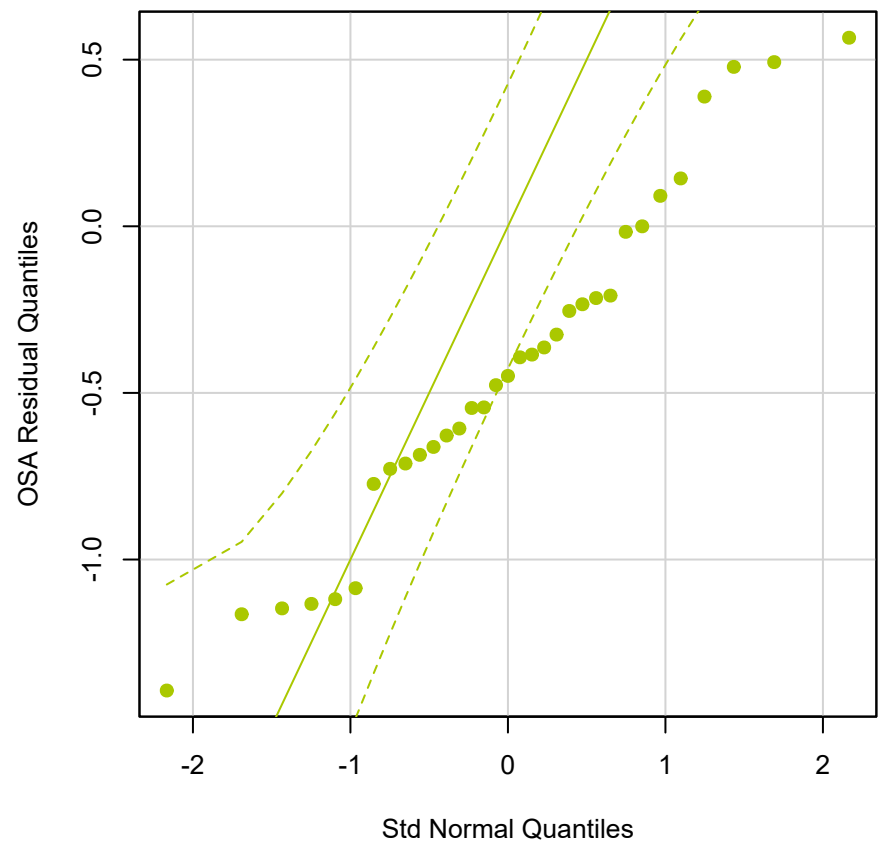
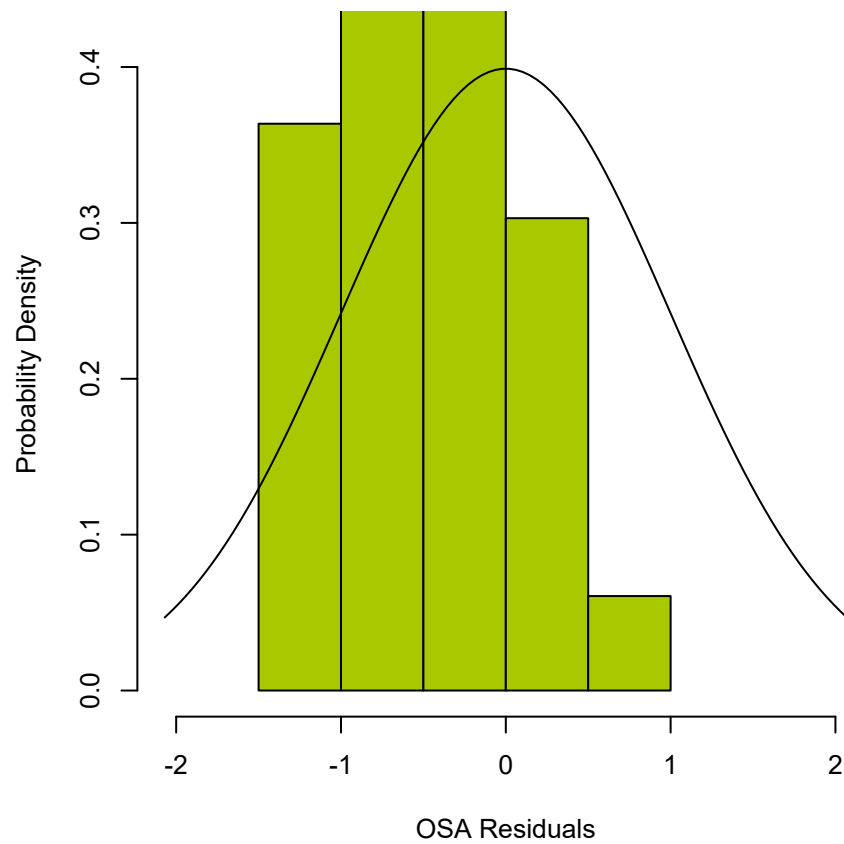
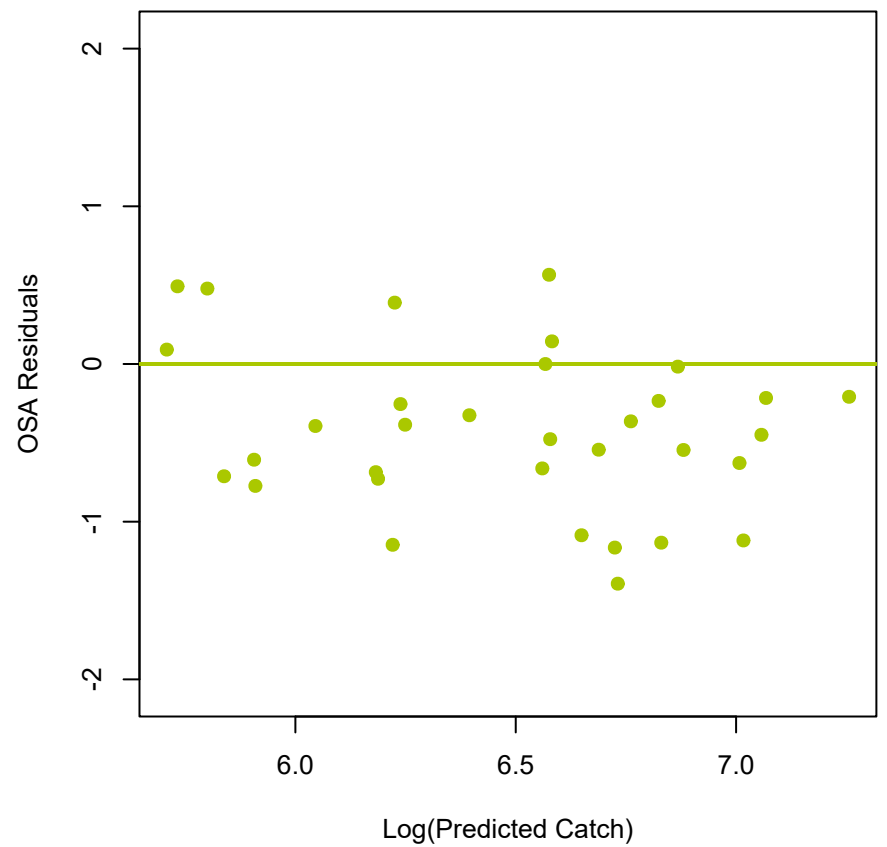
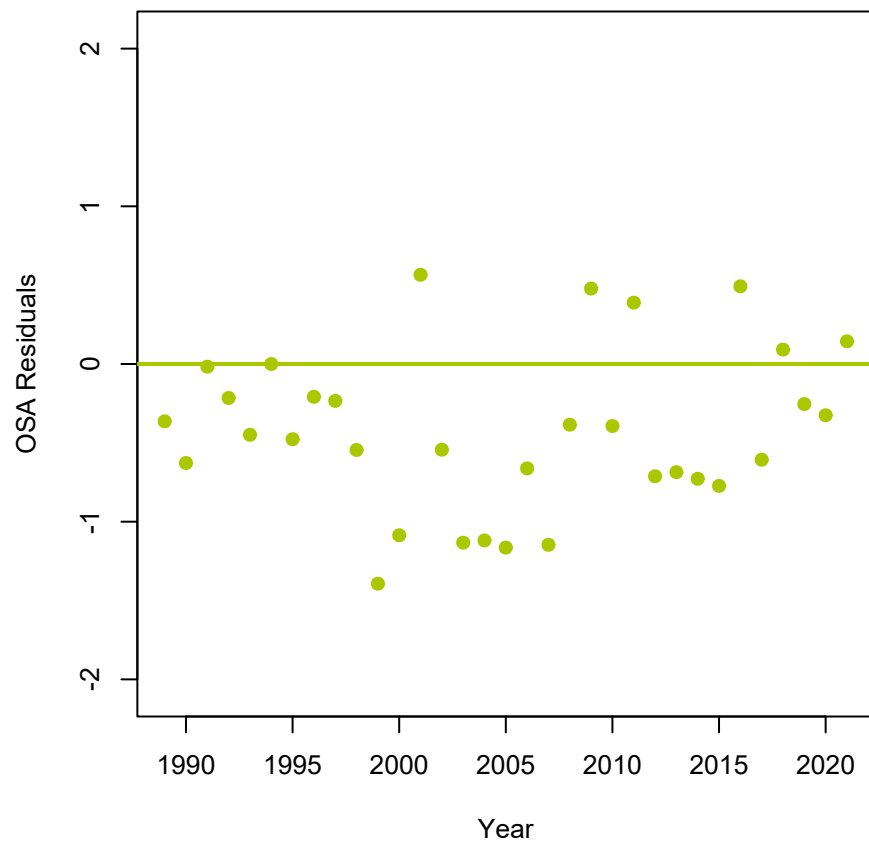
# OSA residual diagnostics: North\_Commercial



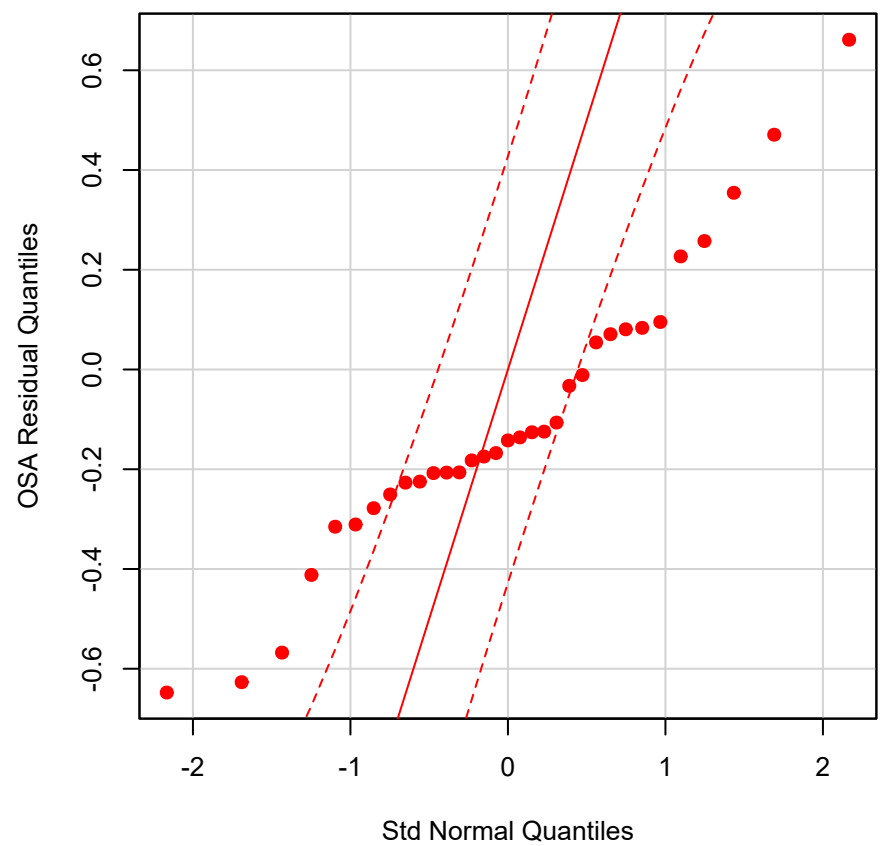
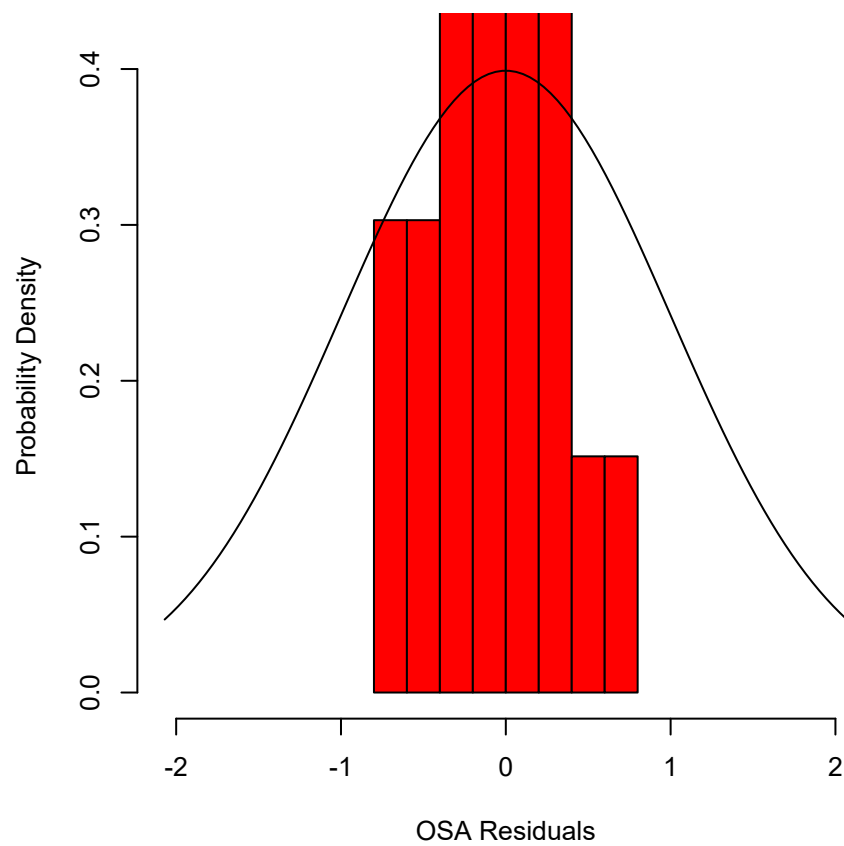
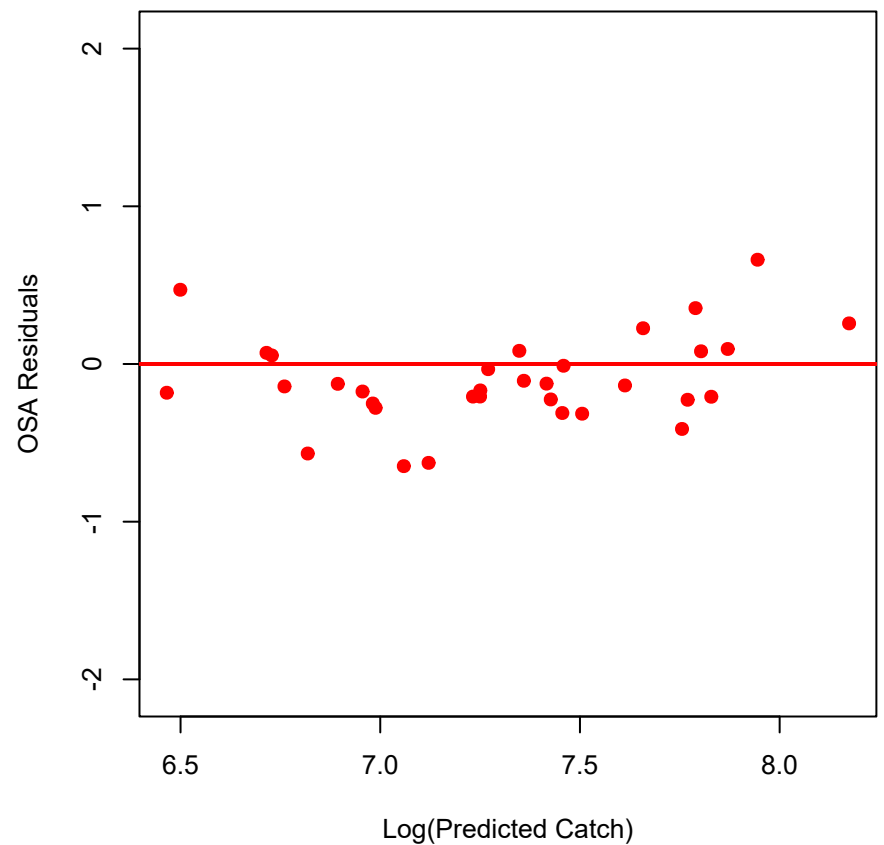
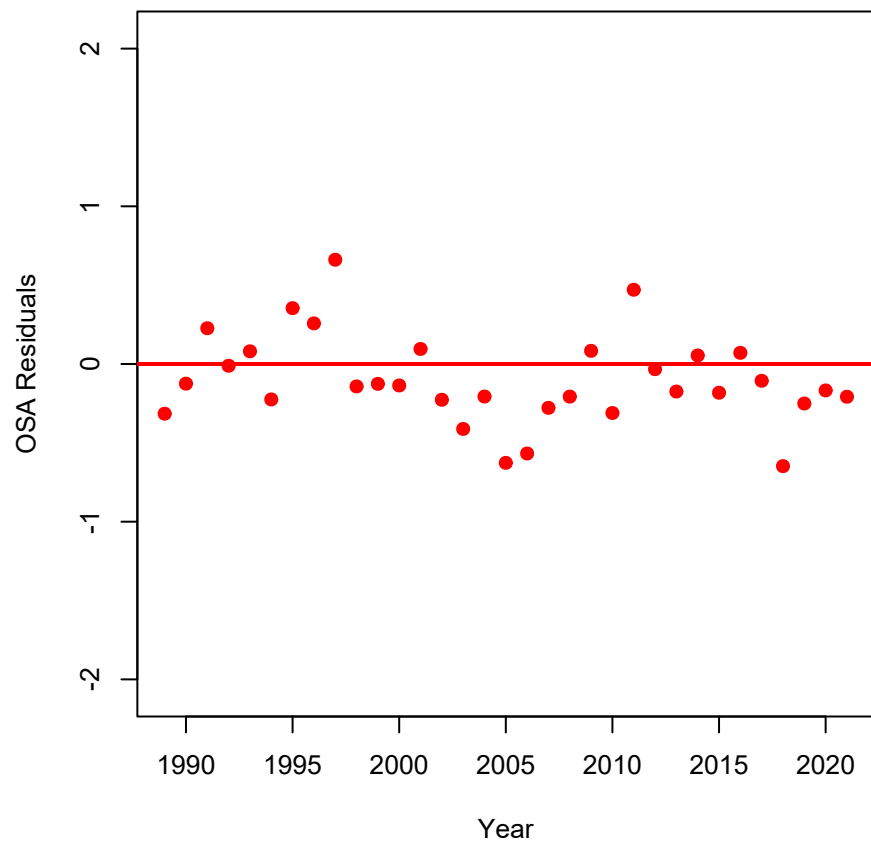
# OSA residual diagnostics: North\_Recreational



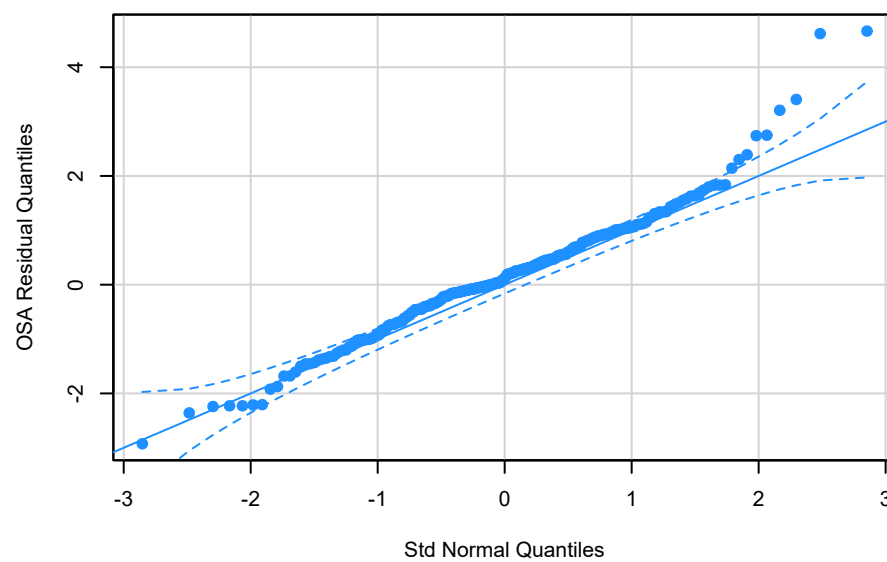
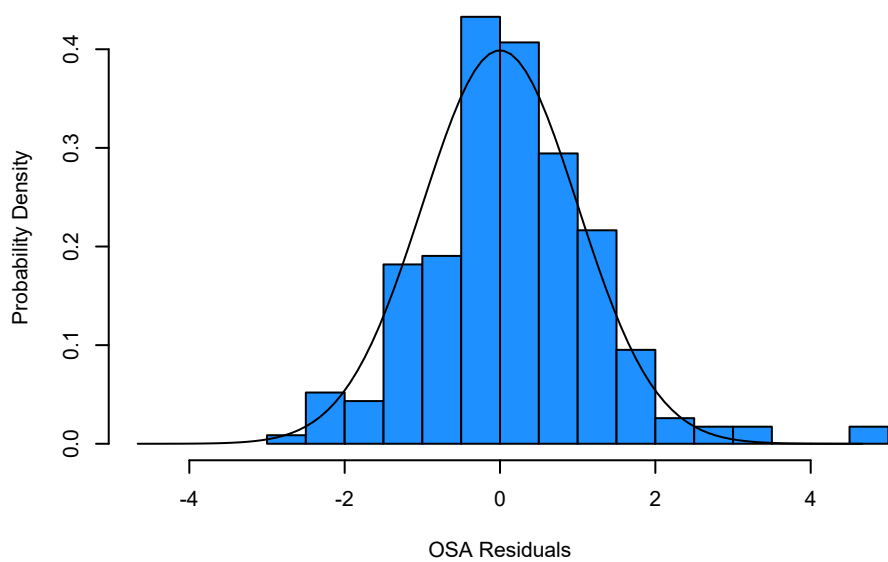
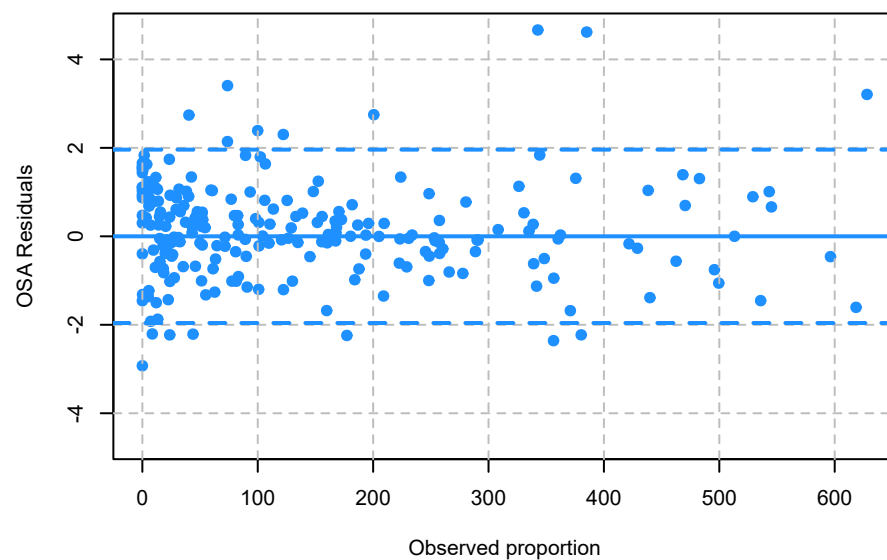
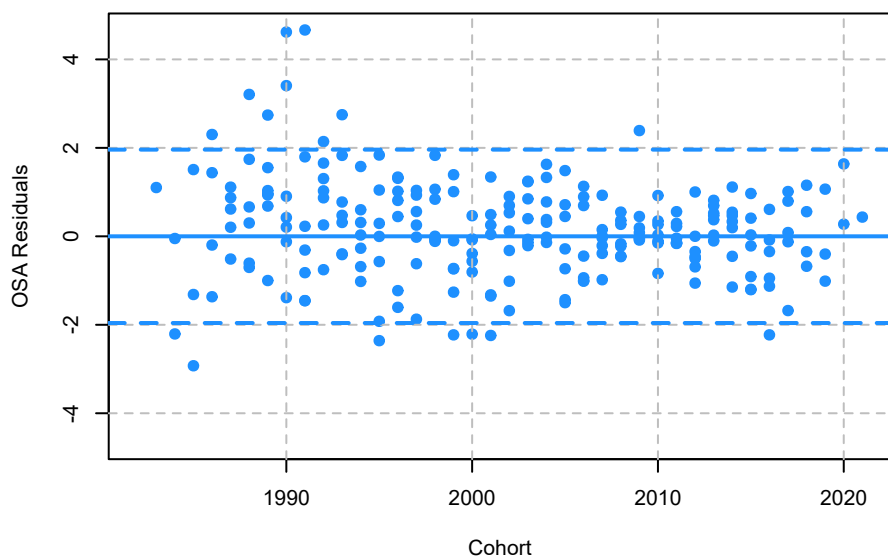
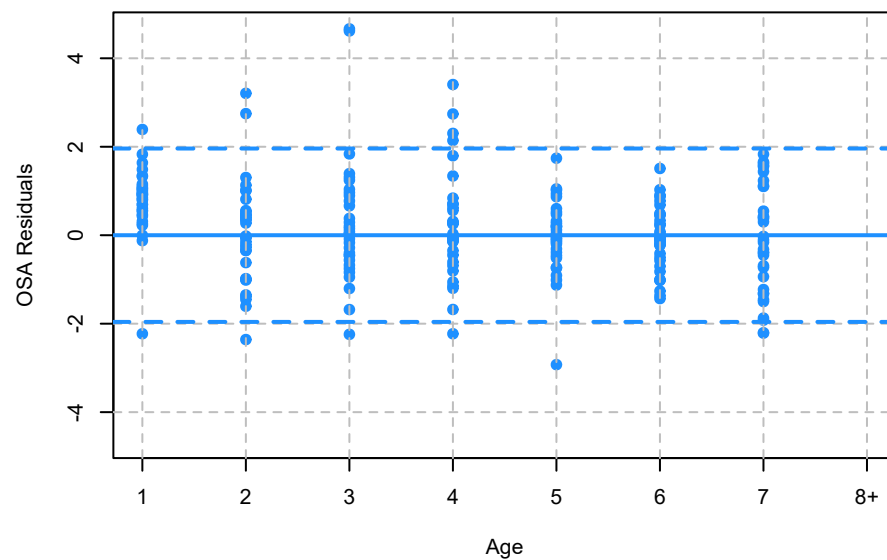
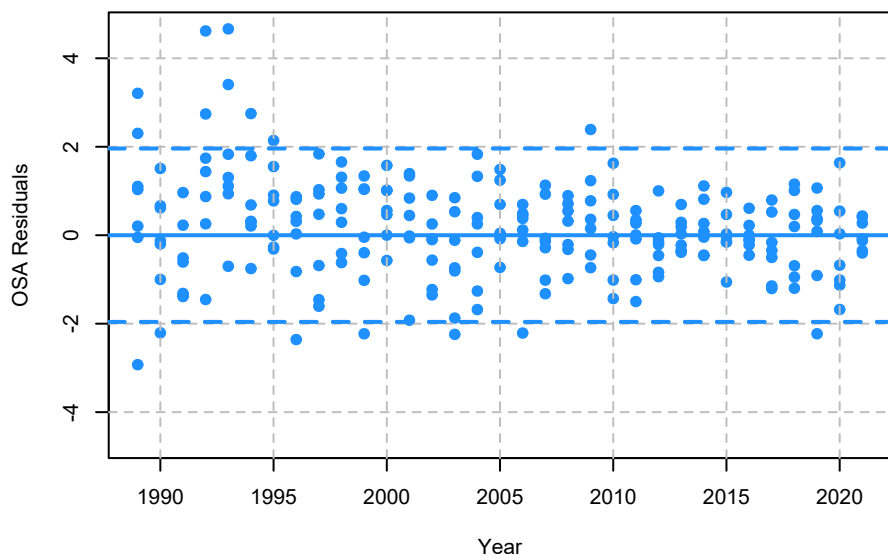
# OSA residual diagnostics: South\_Commercial



# OSA residual diagnostics: South\_Recreational

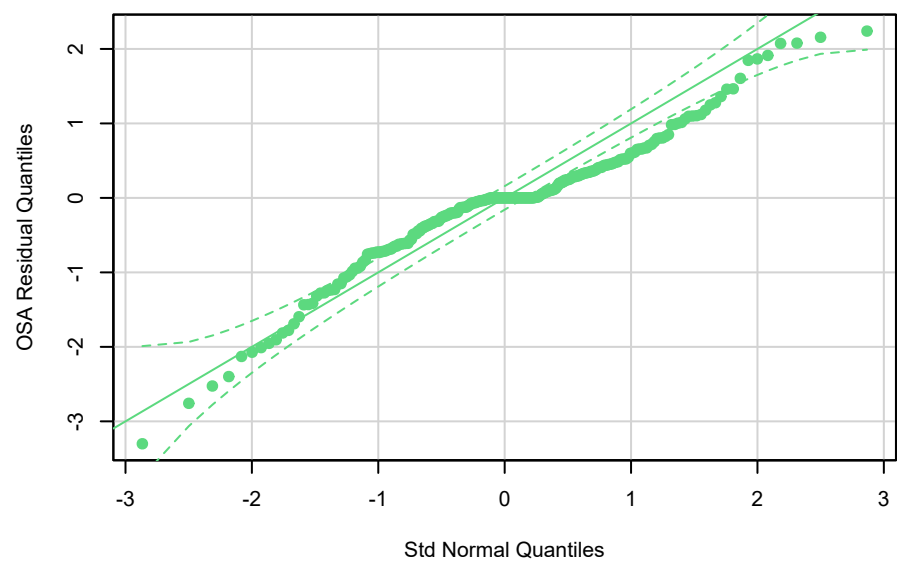
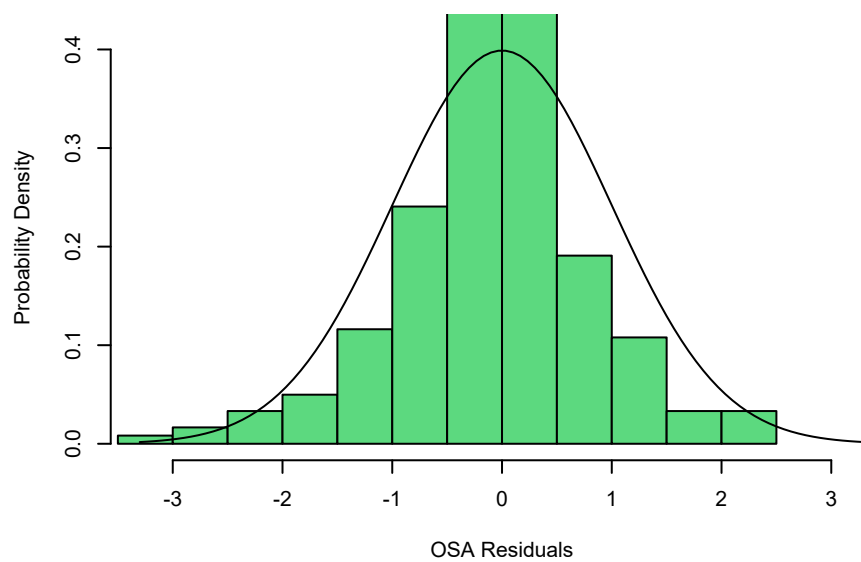
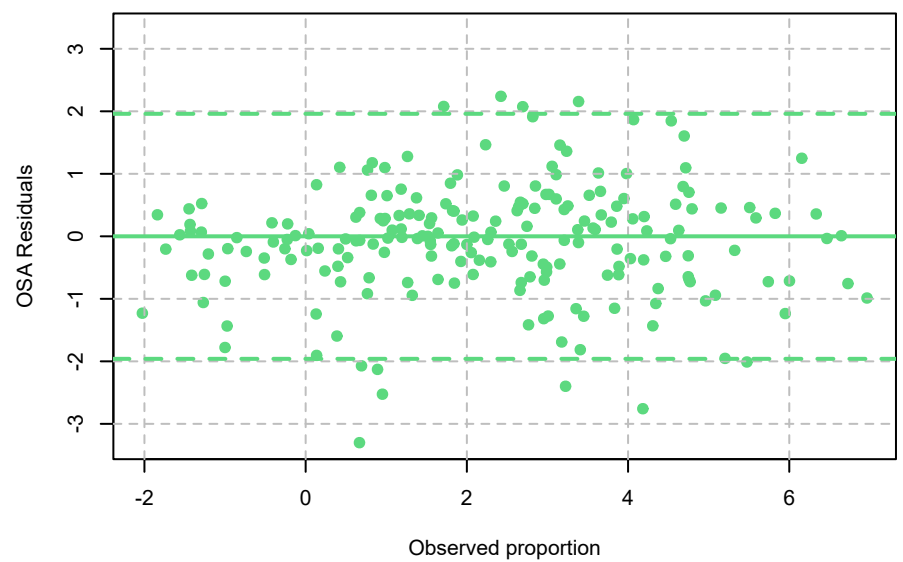
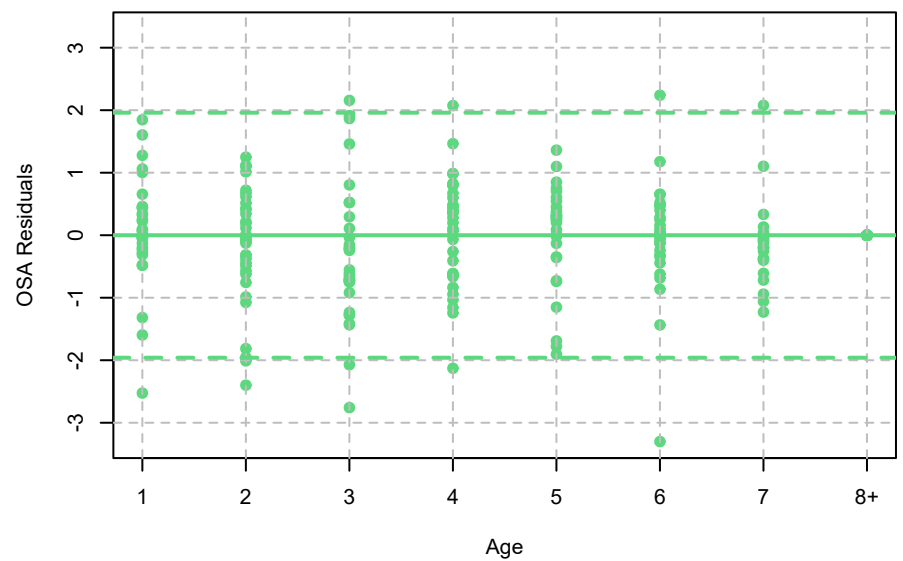
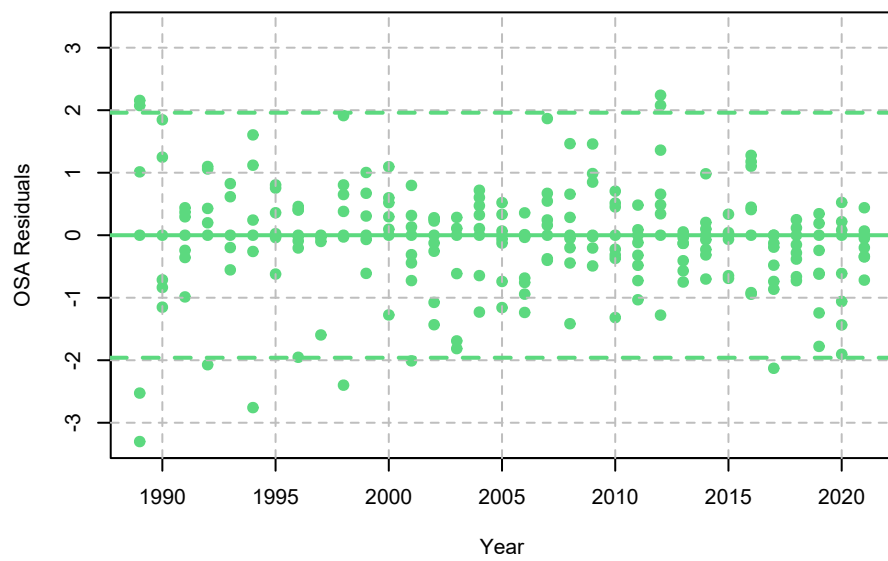


# age composition OSA residual diagnostics: North\_Commercial

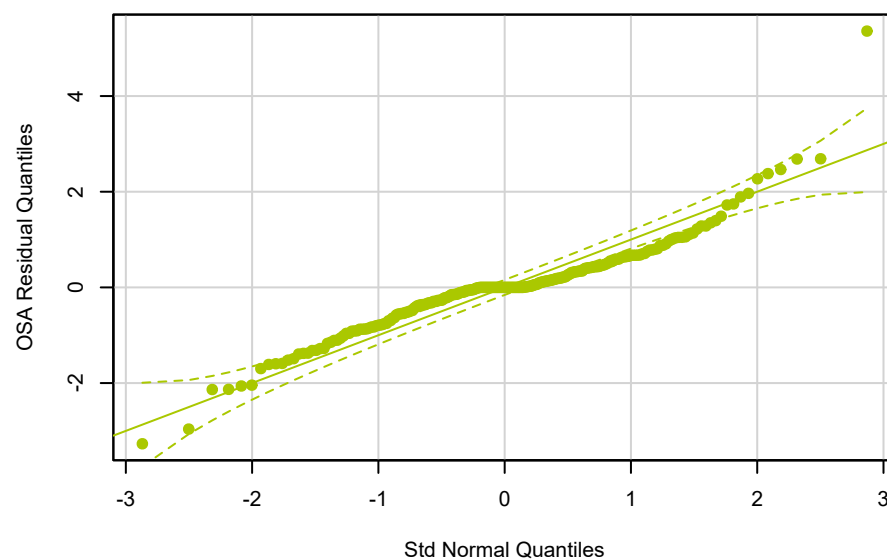
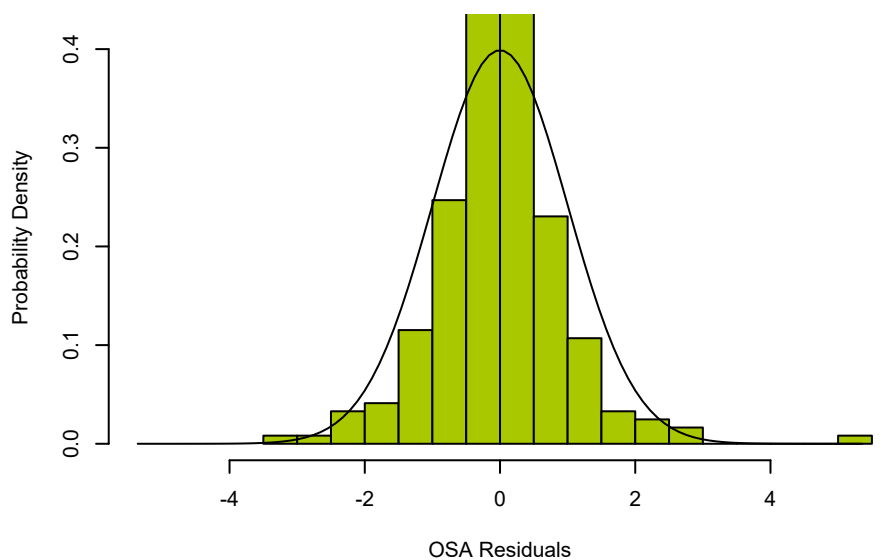
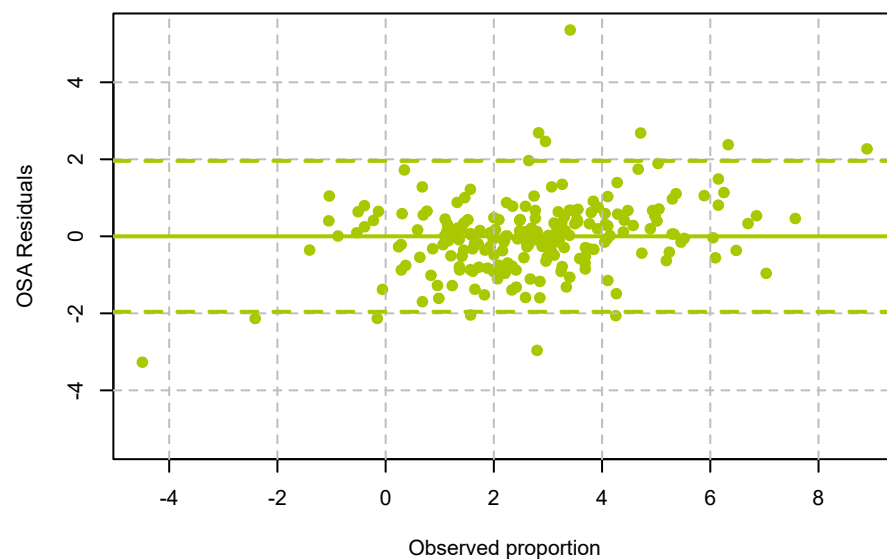
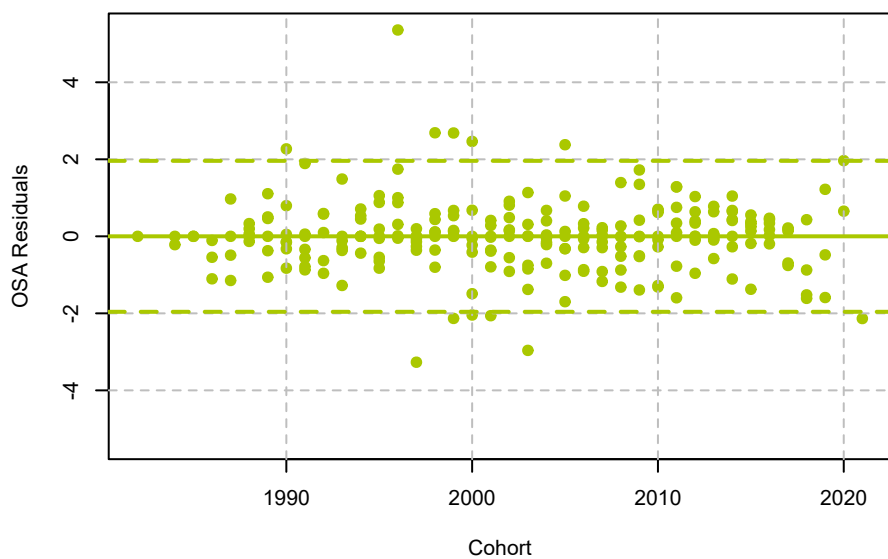
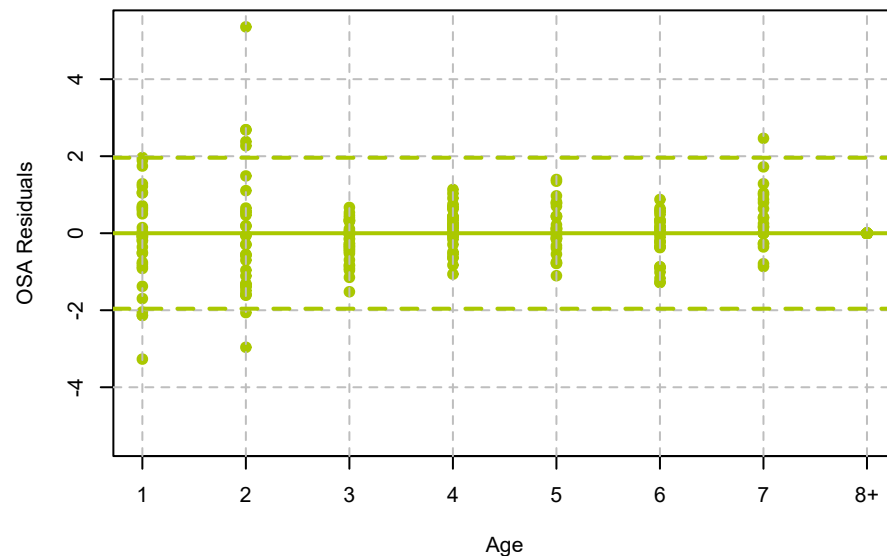
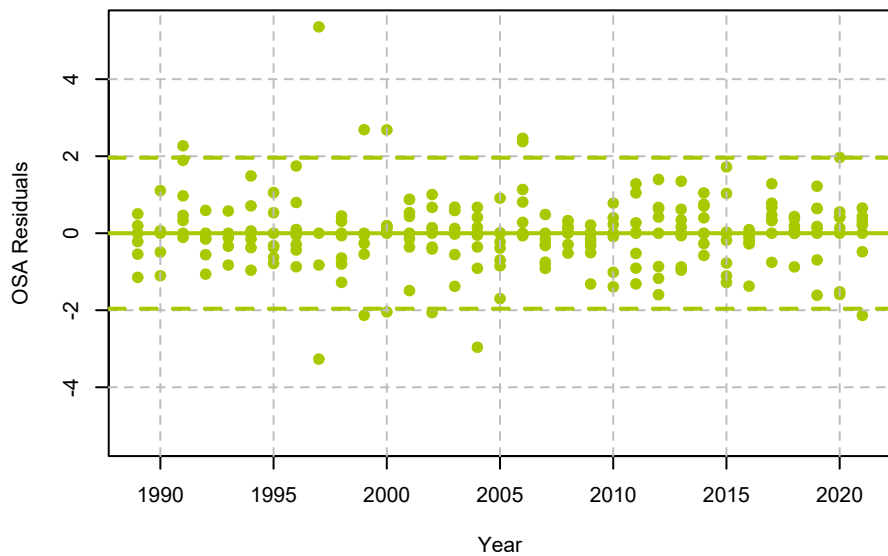




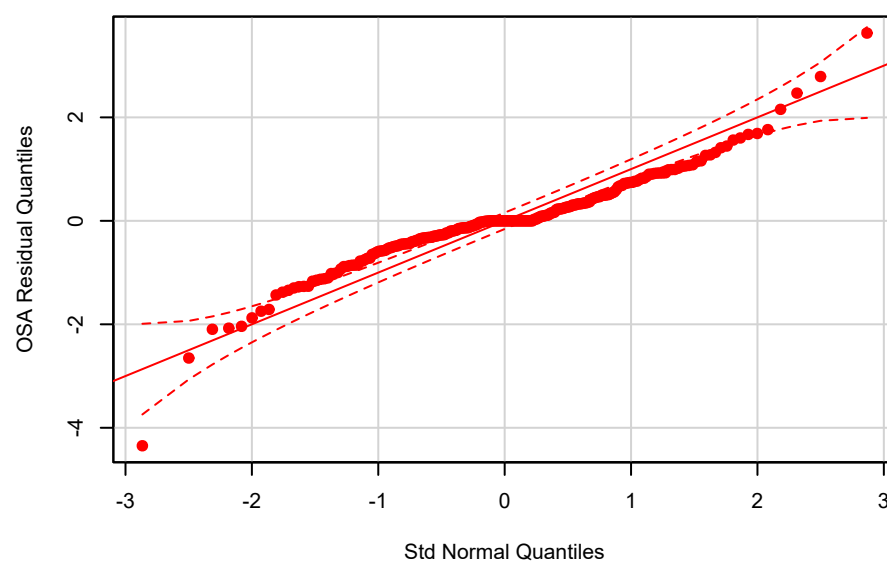
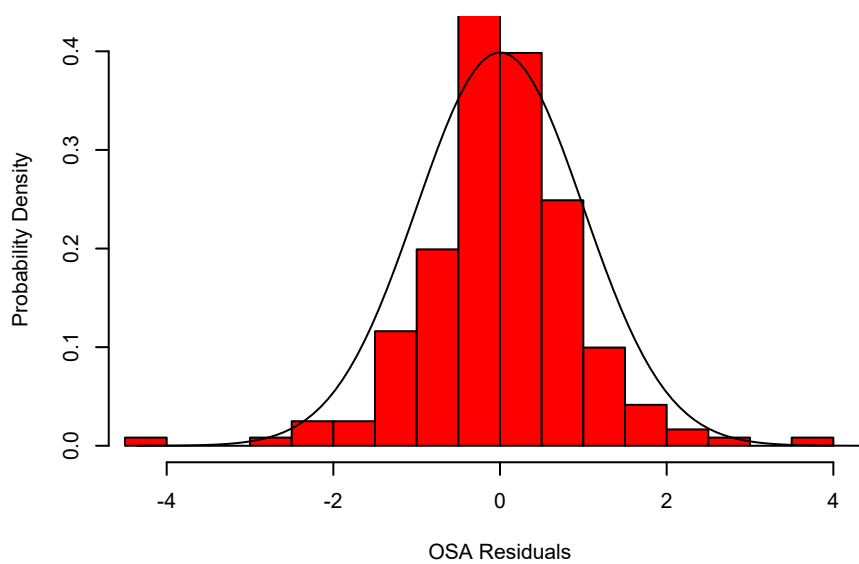
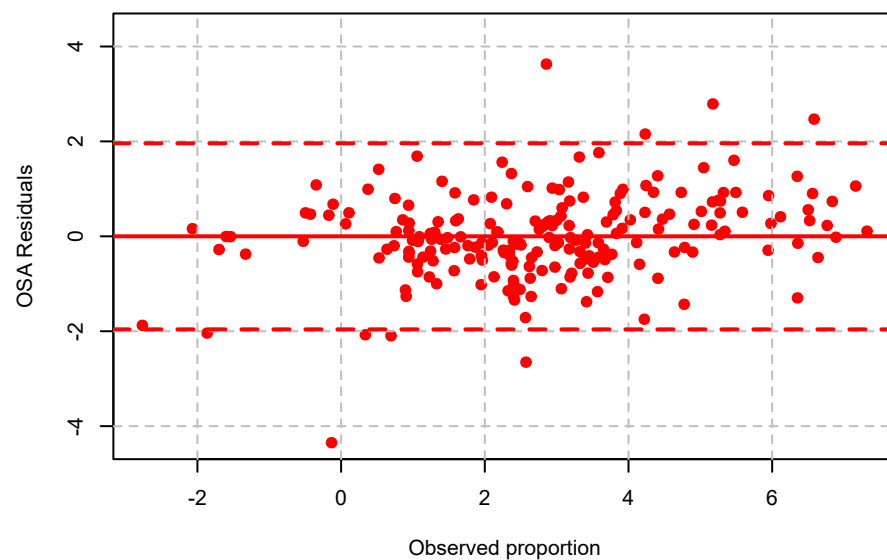
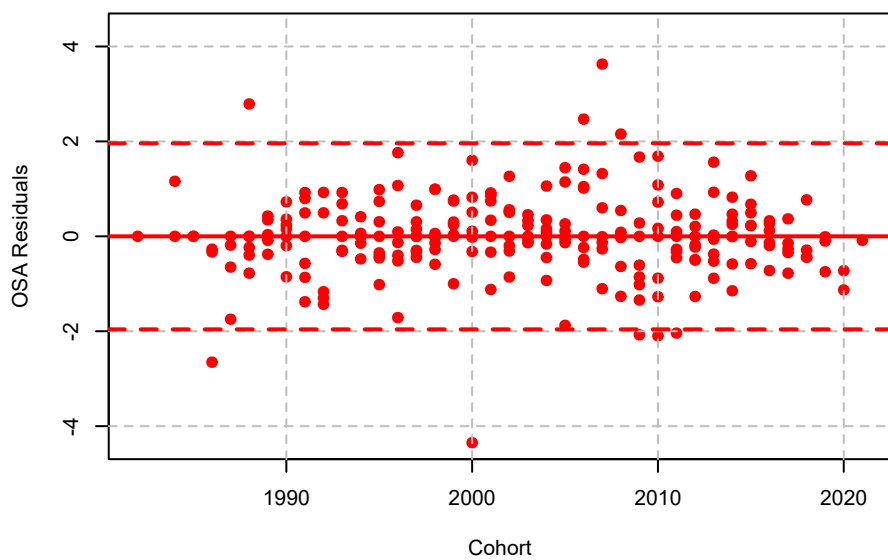
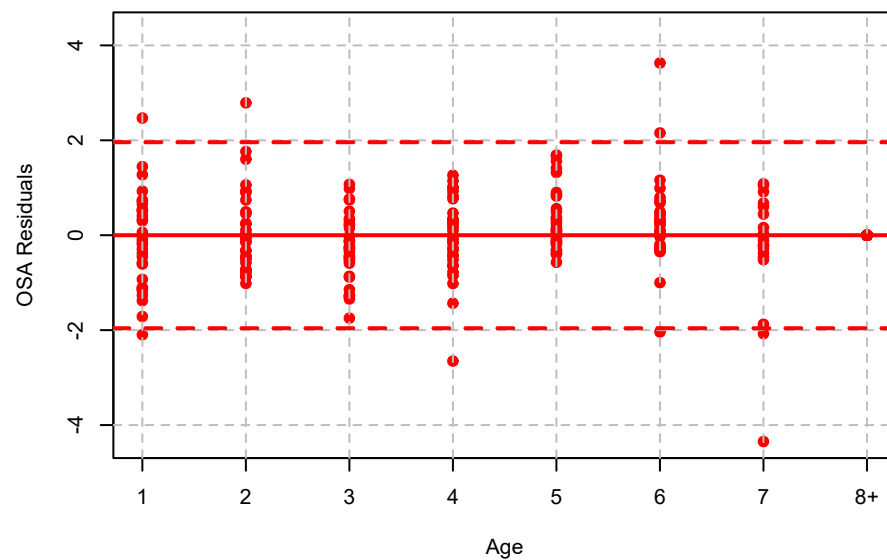
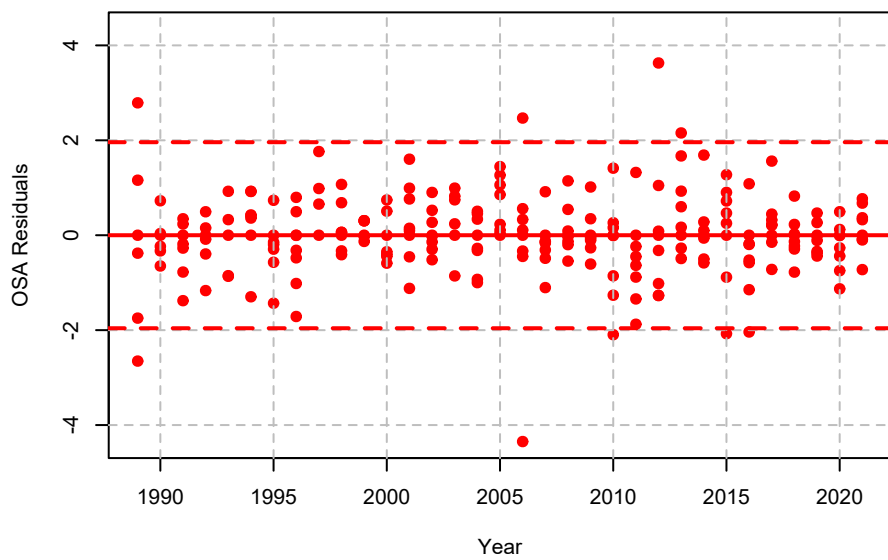
# age composition OSA residual diagnostics: North\_Recreational



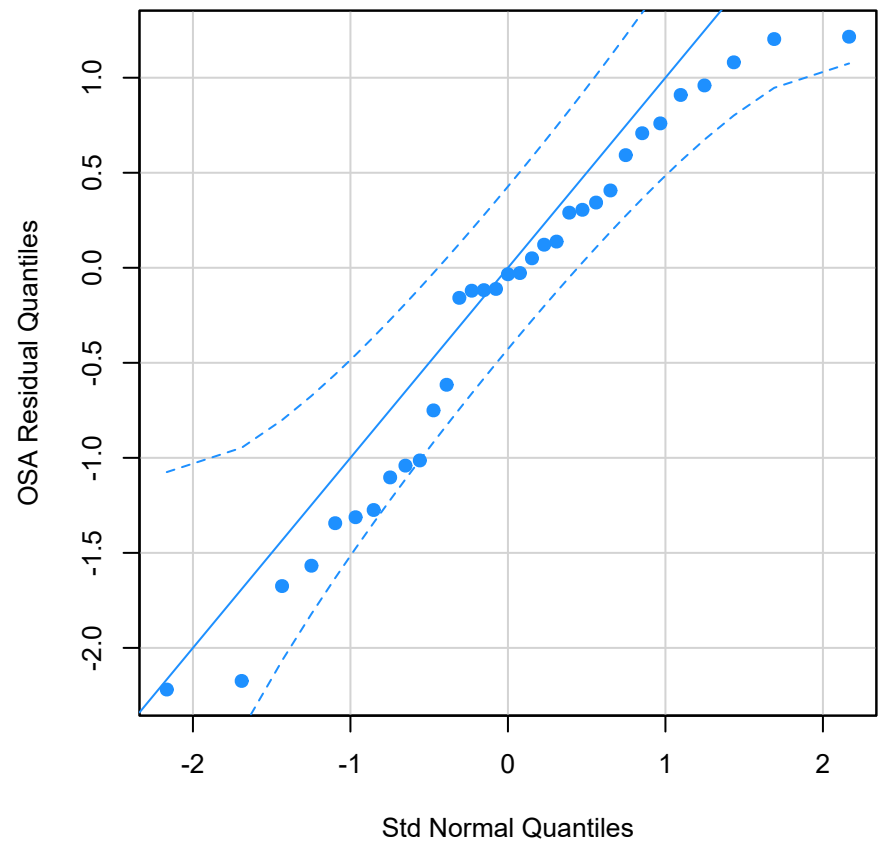
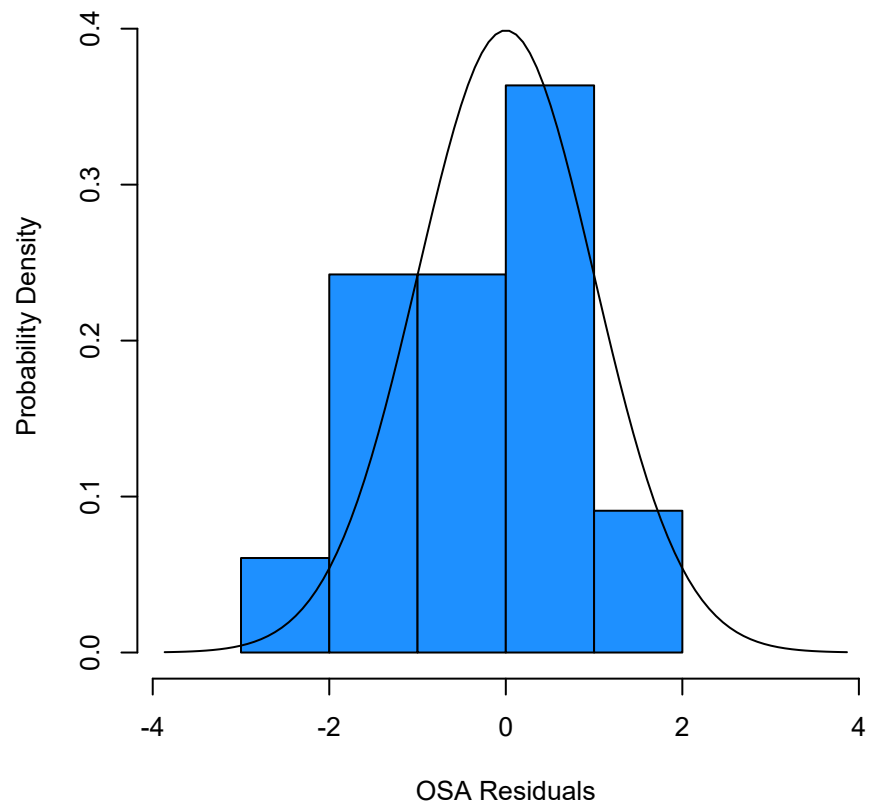
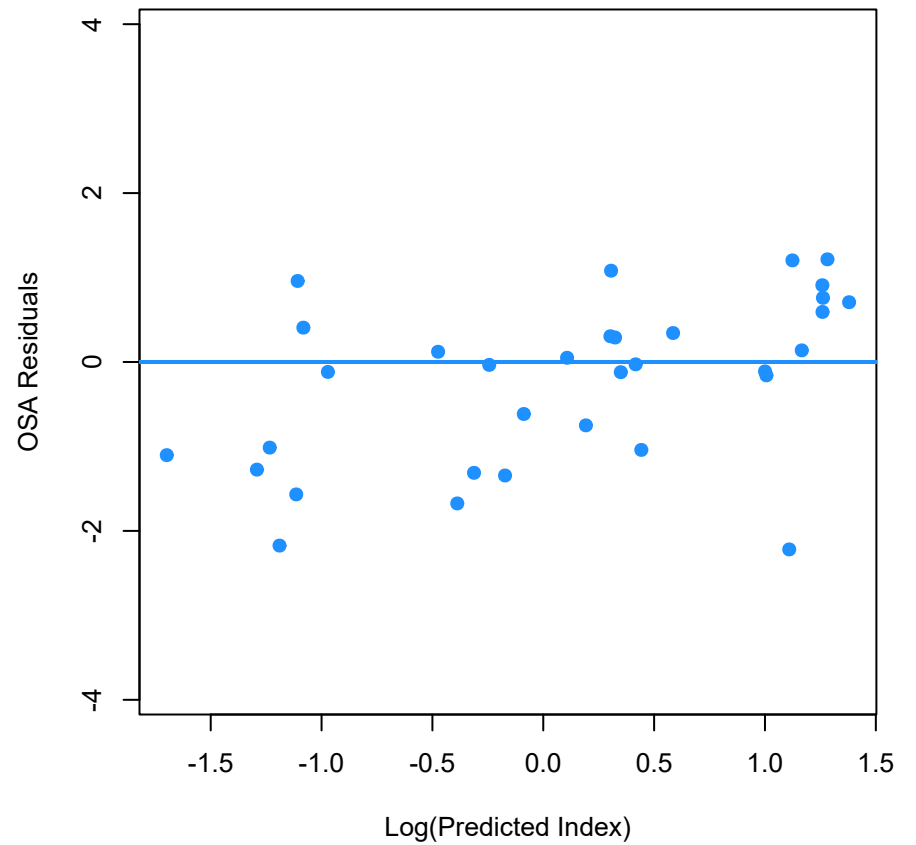
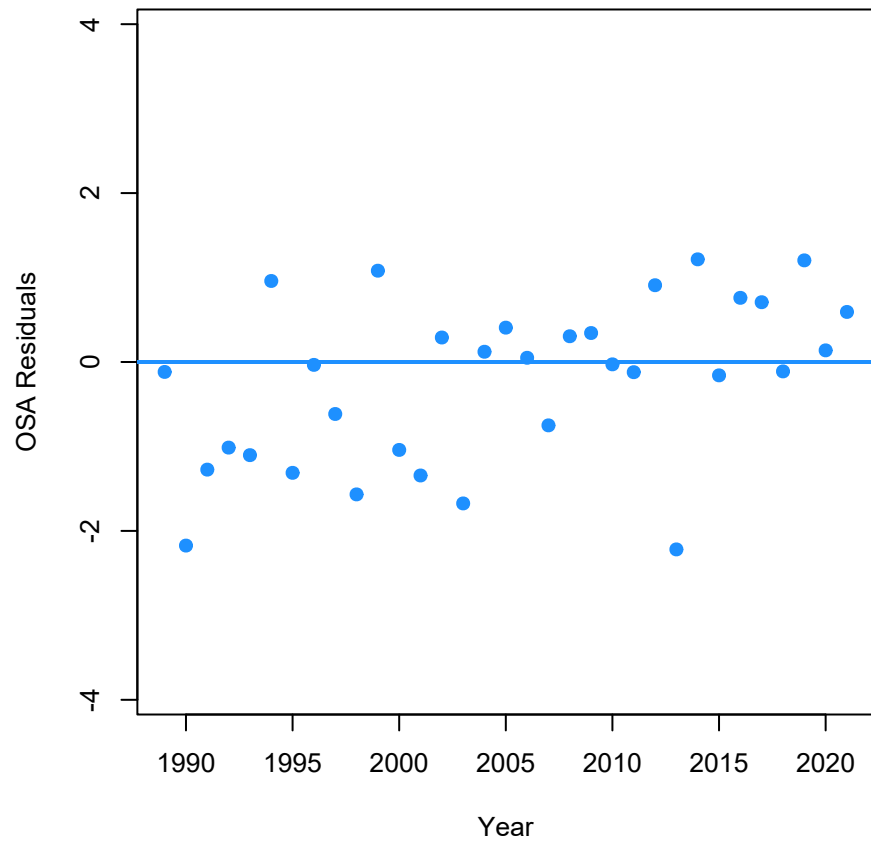
# age composition OSA residual diagnostics: South\_Commercial



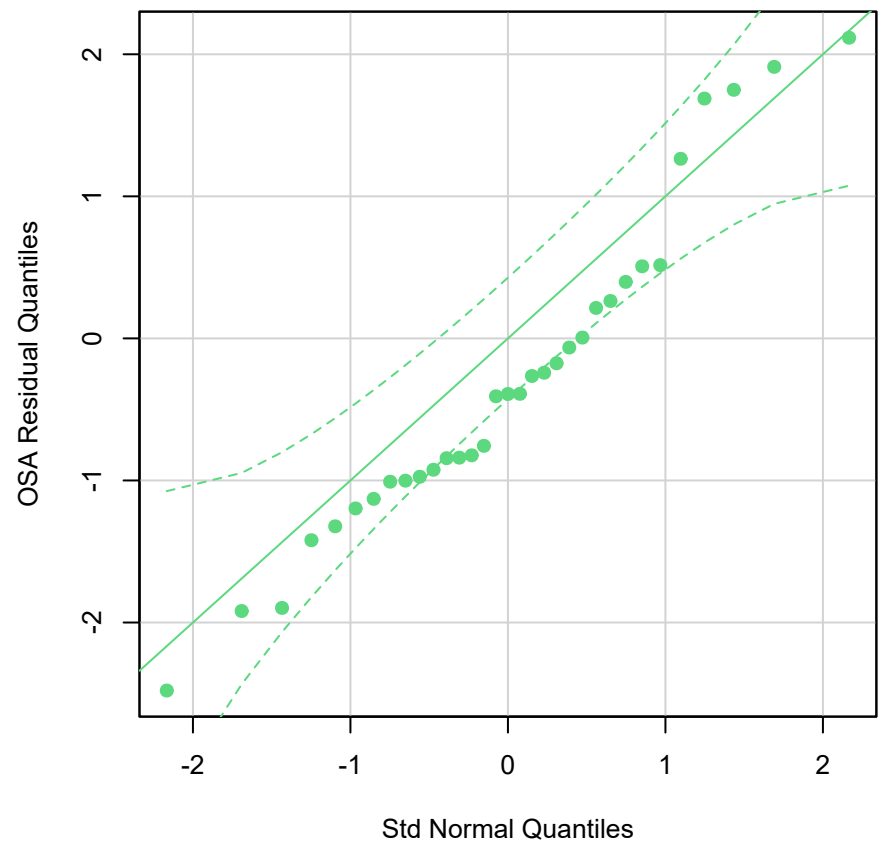
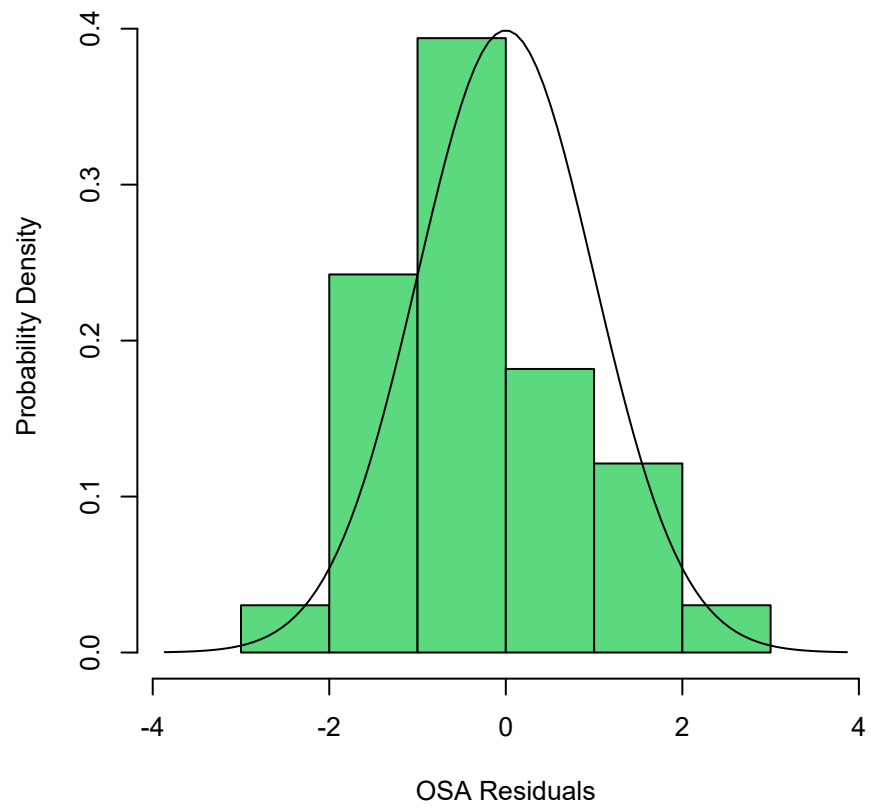
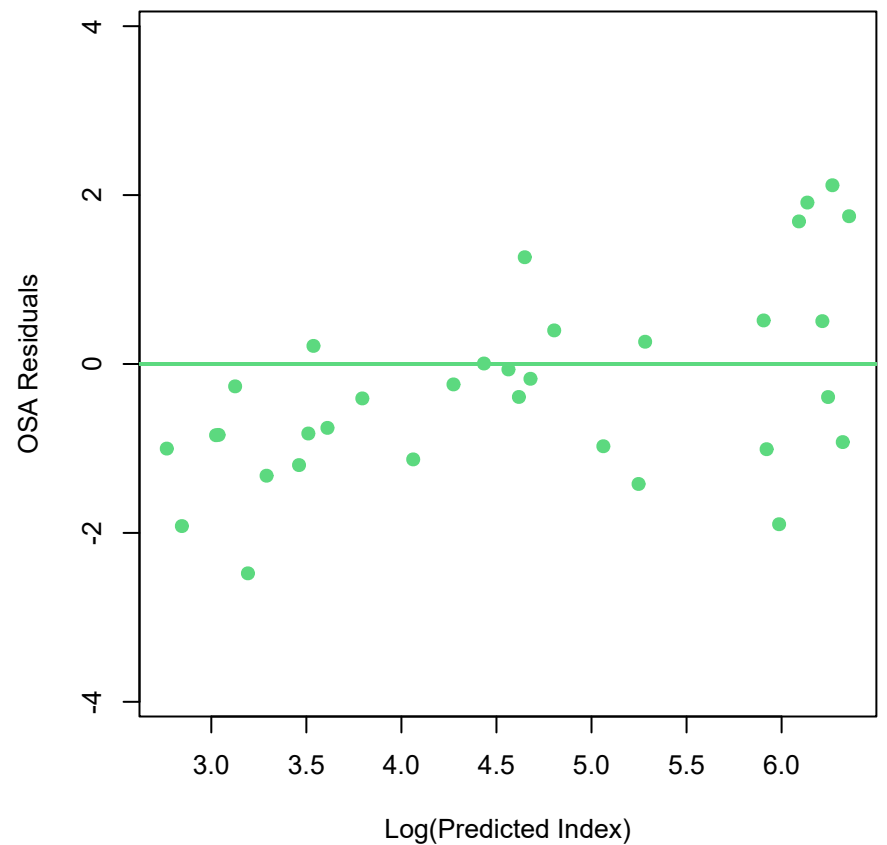
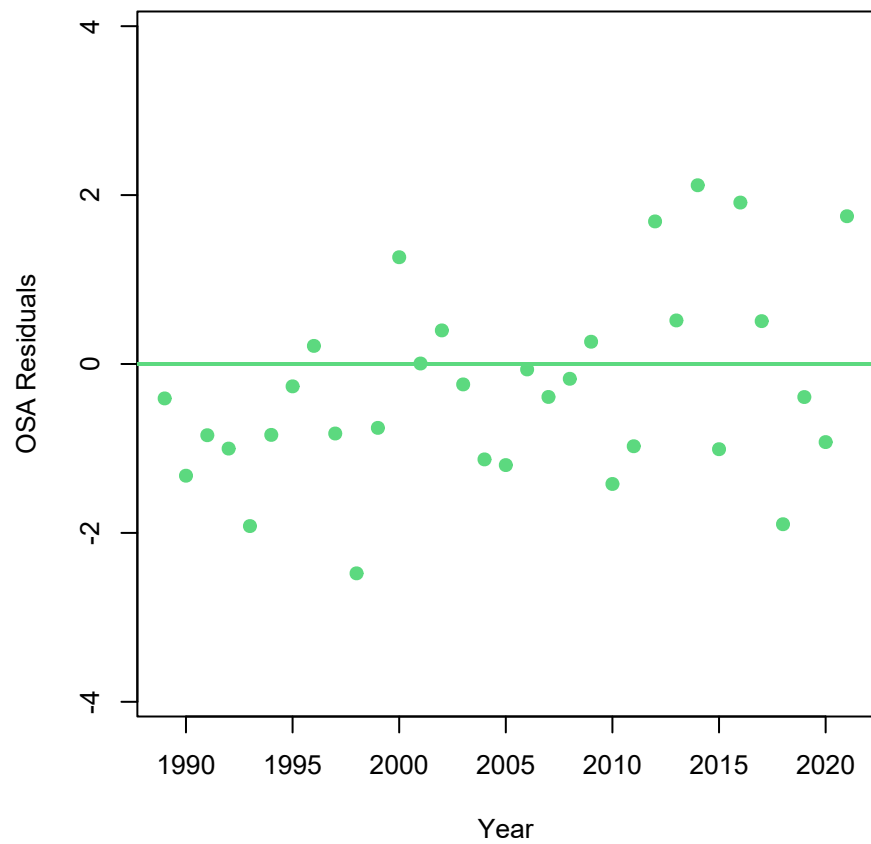
# age composition OSA residual diagnostics: South\_Recreational



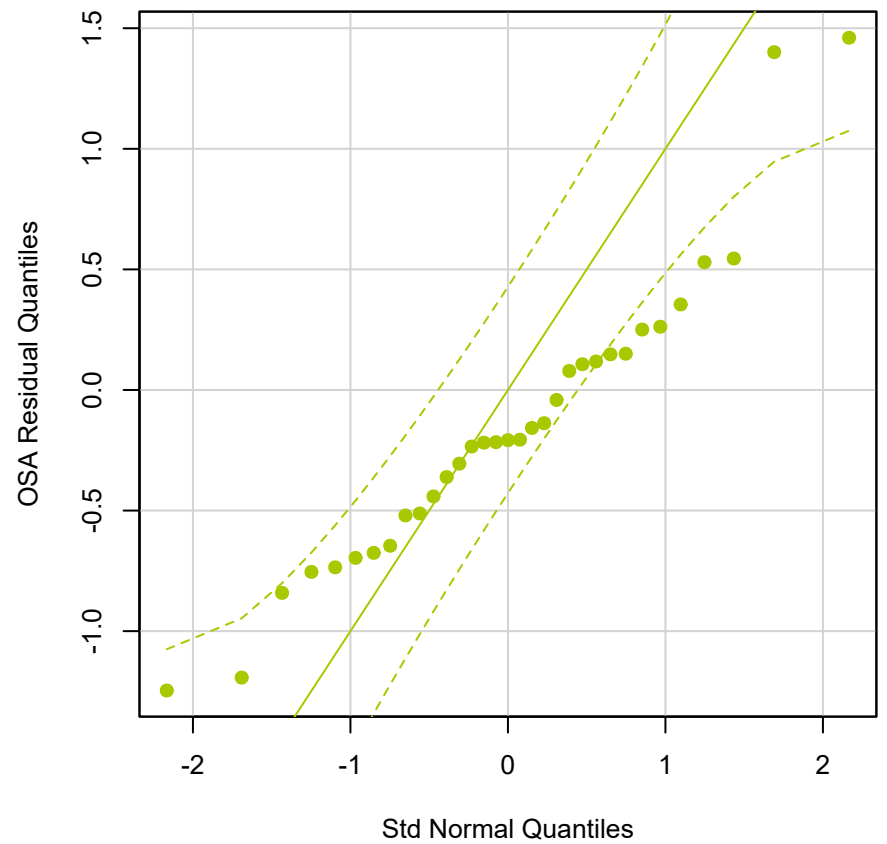
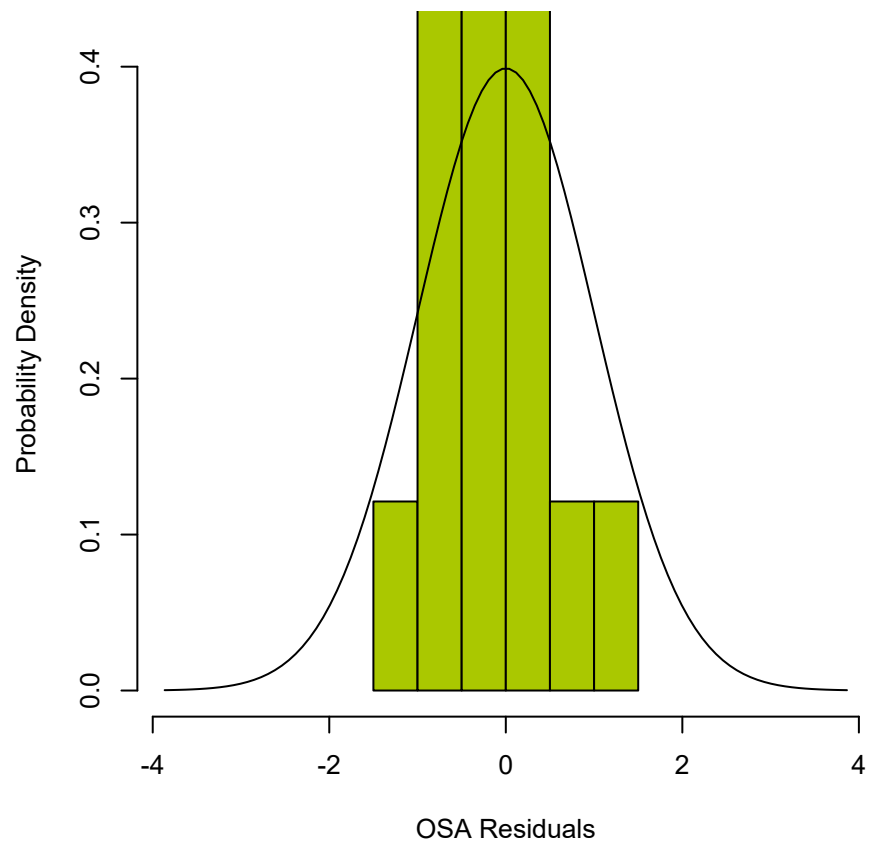
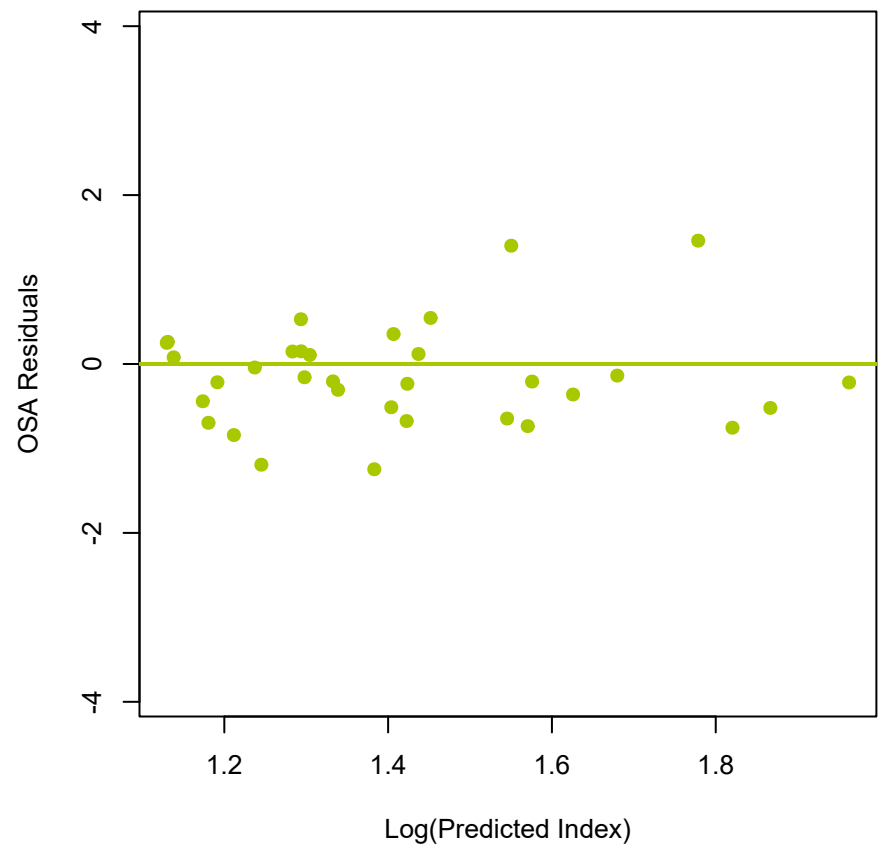
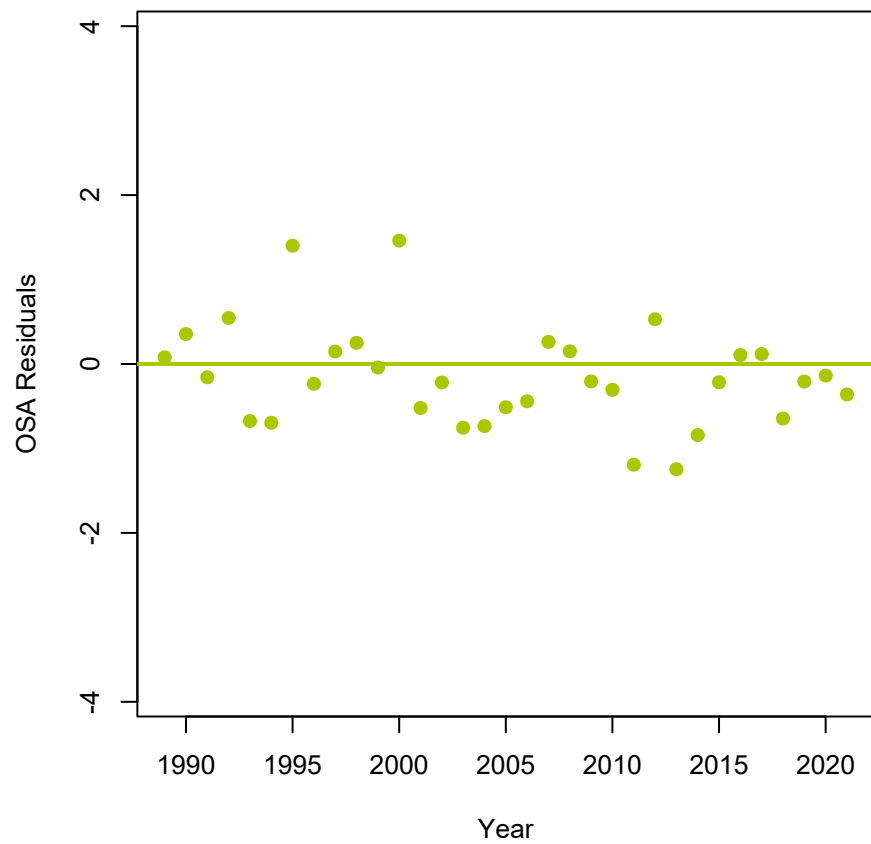
# OSA residual diagnostics: North\_REC CPA



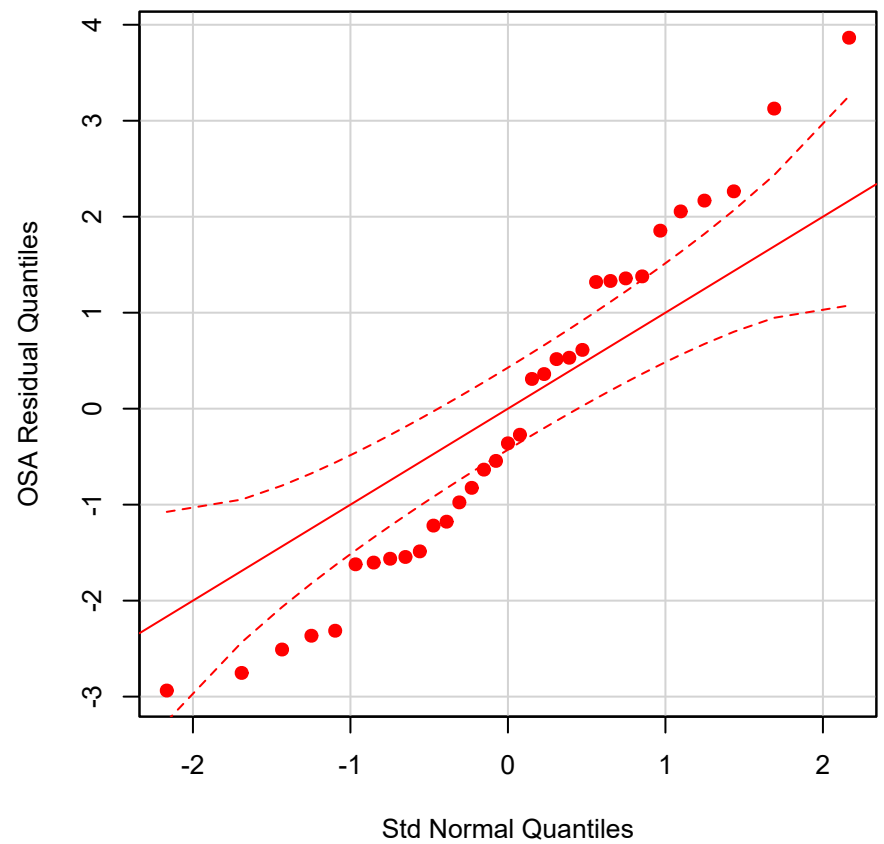
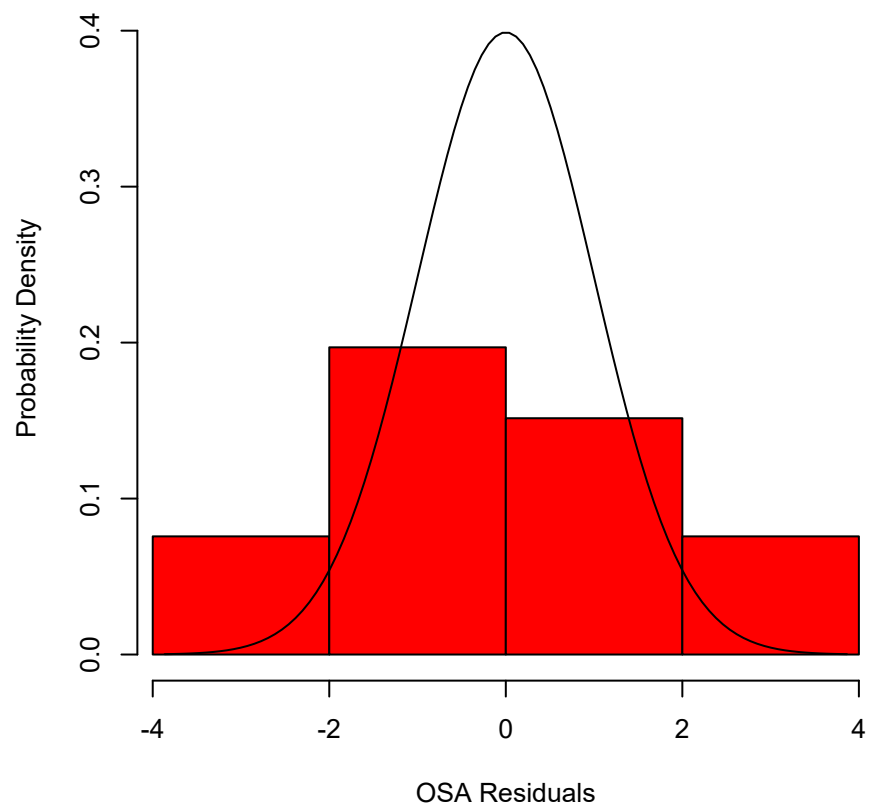
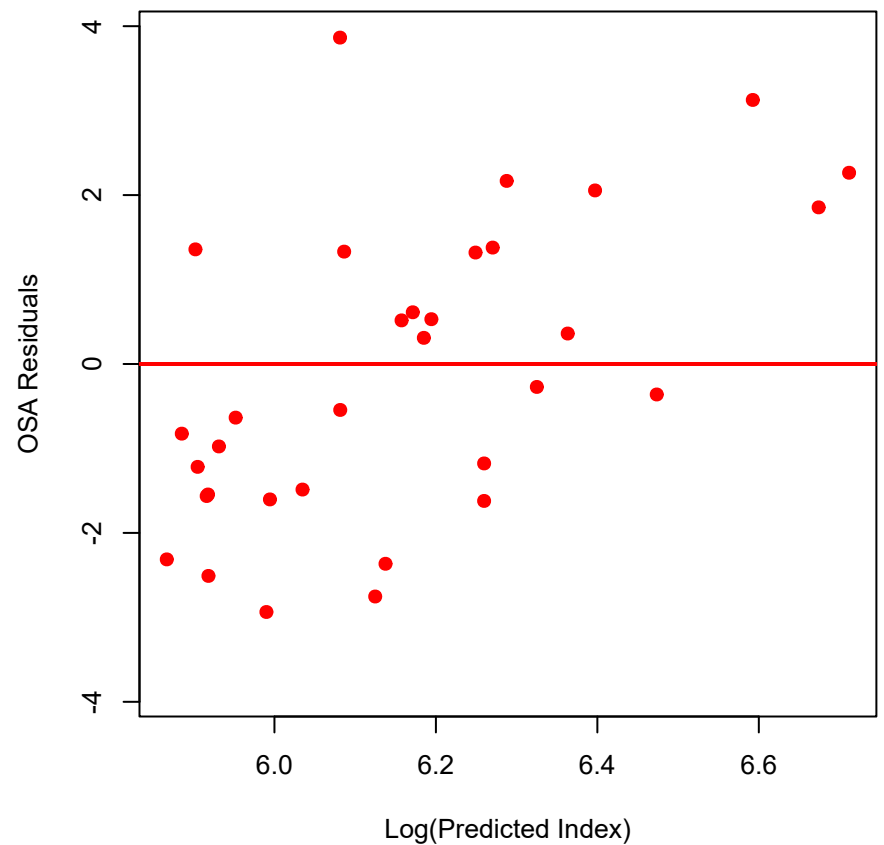
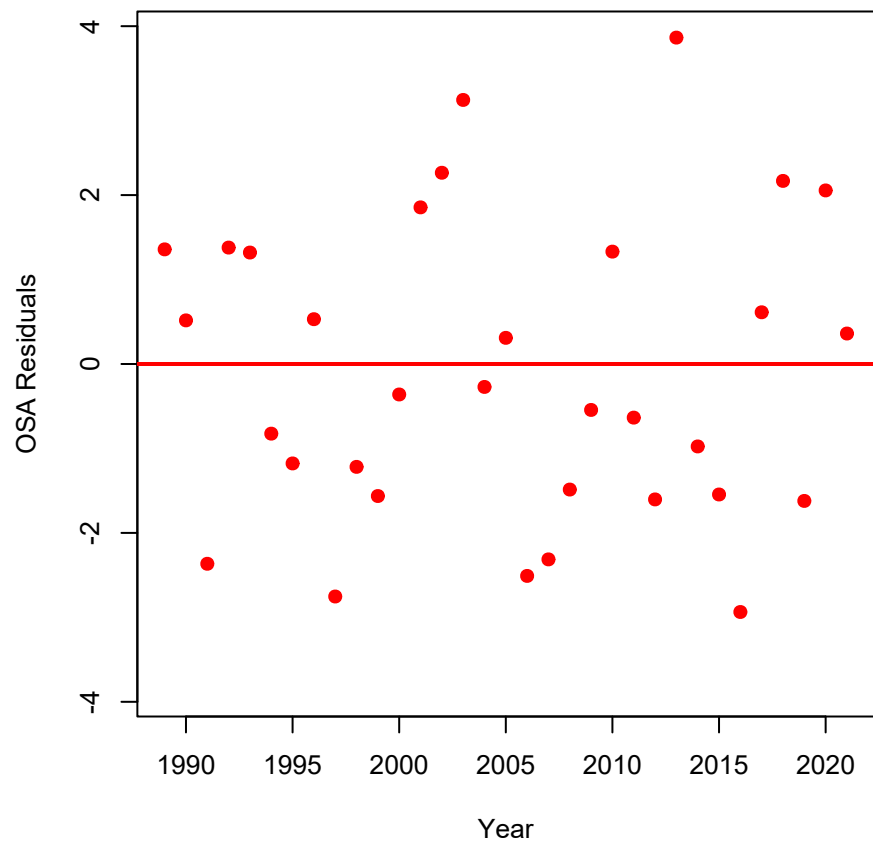
# OSA residual diagnostics: North\_VAST Spring



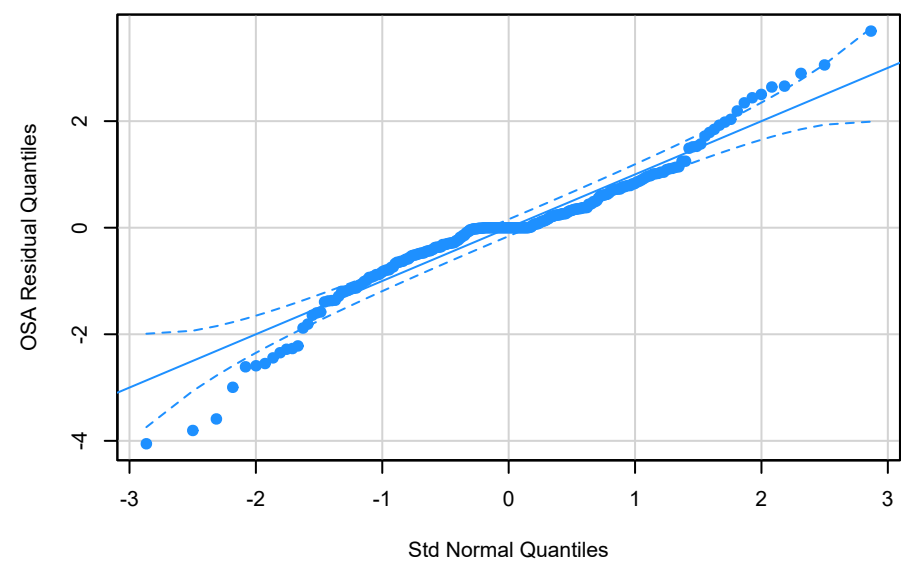
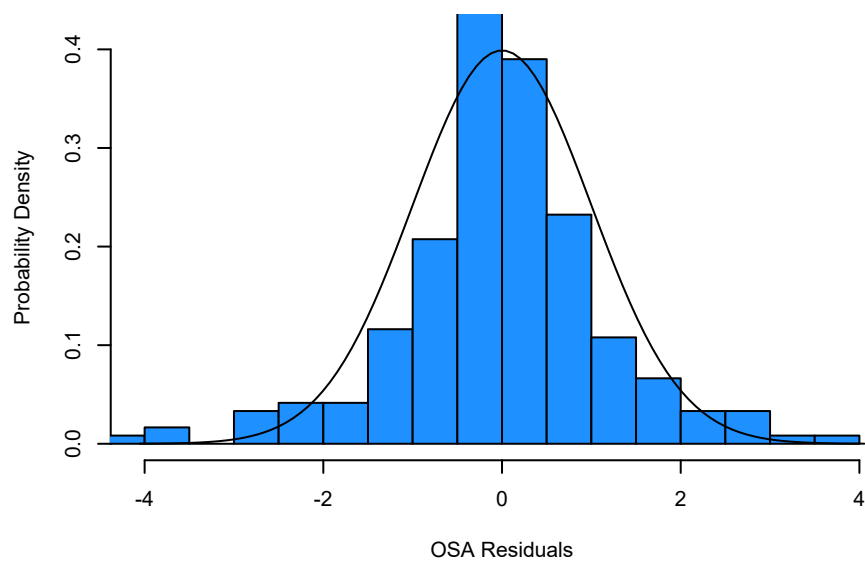
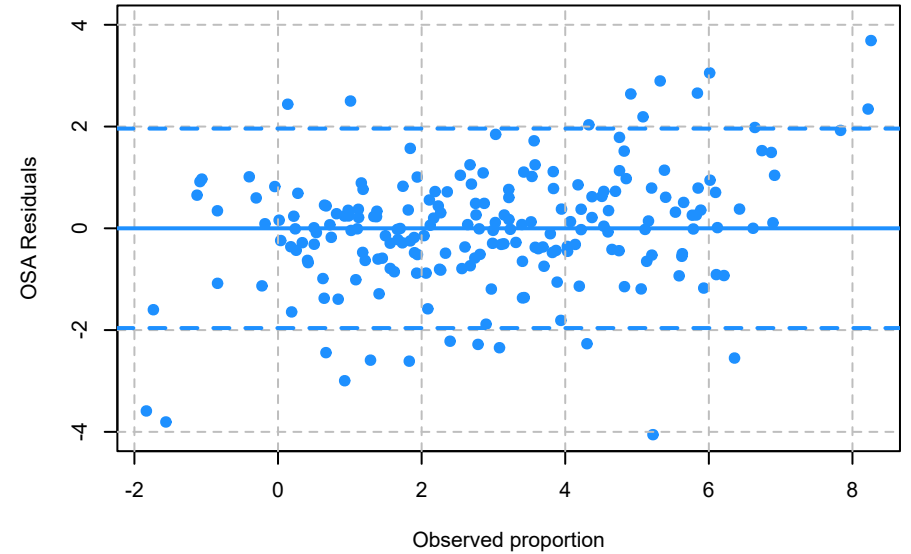
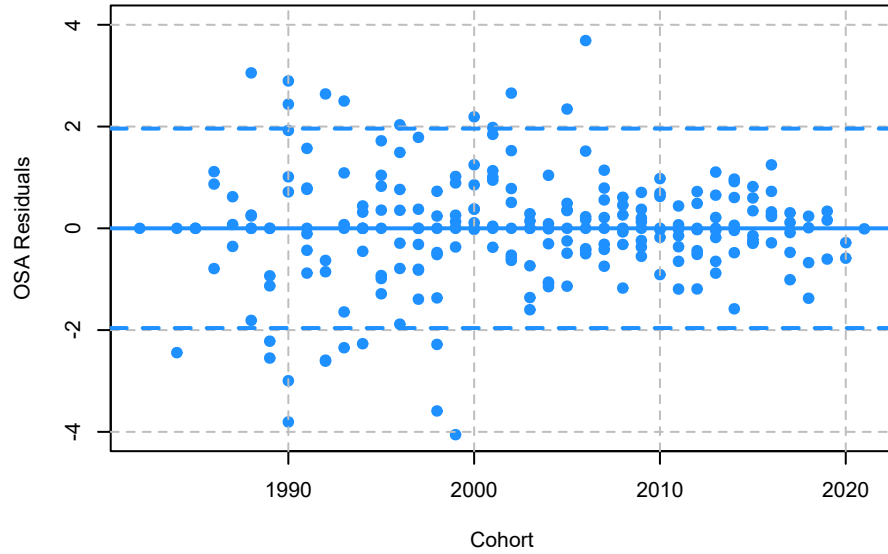
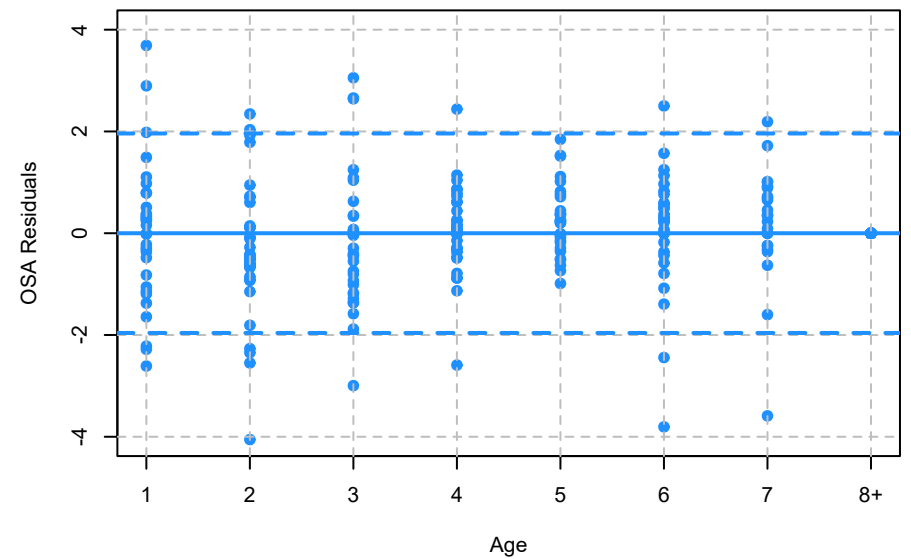
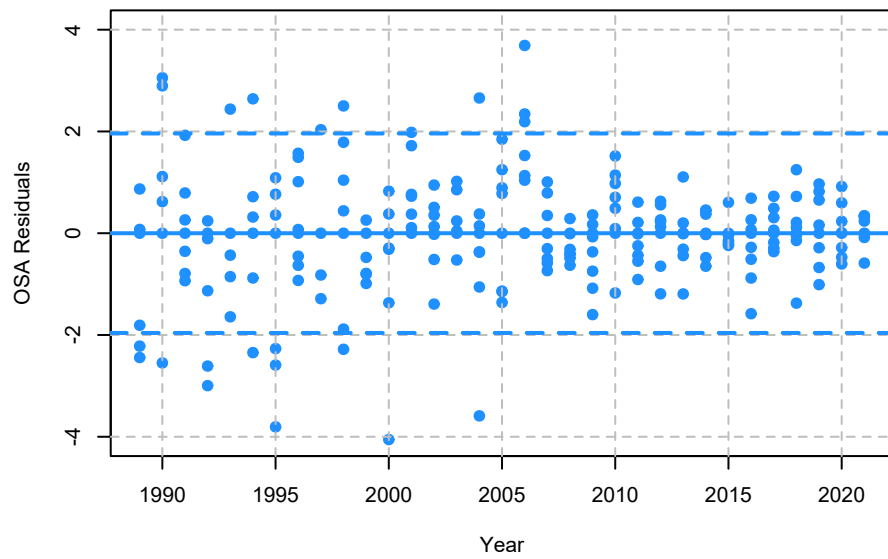
# OSA residual diagnostics: South\_REC CPA



OSA residual diagnostics: South\_VAST Spring

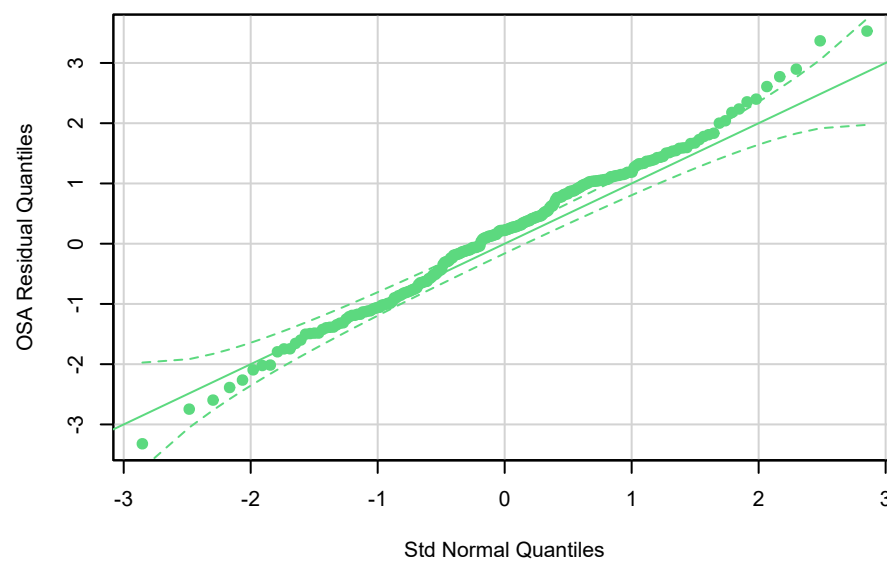
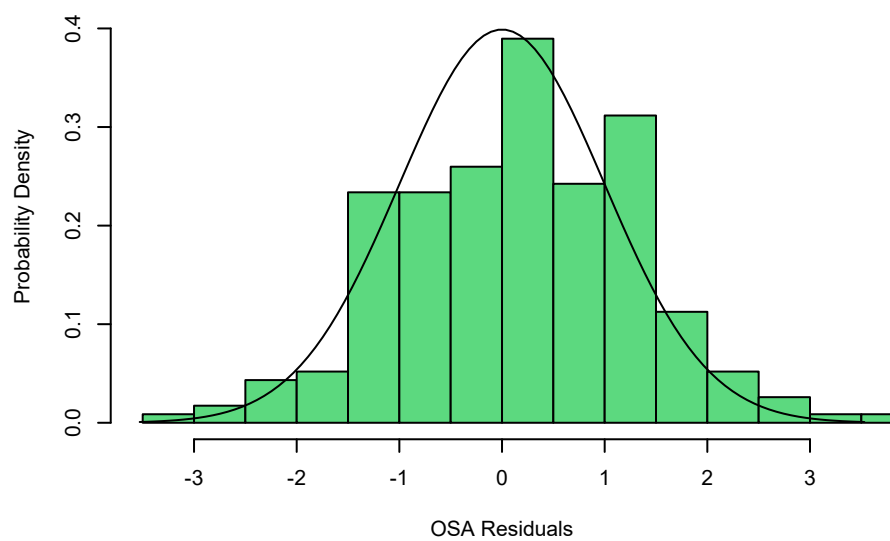
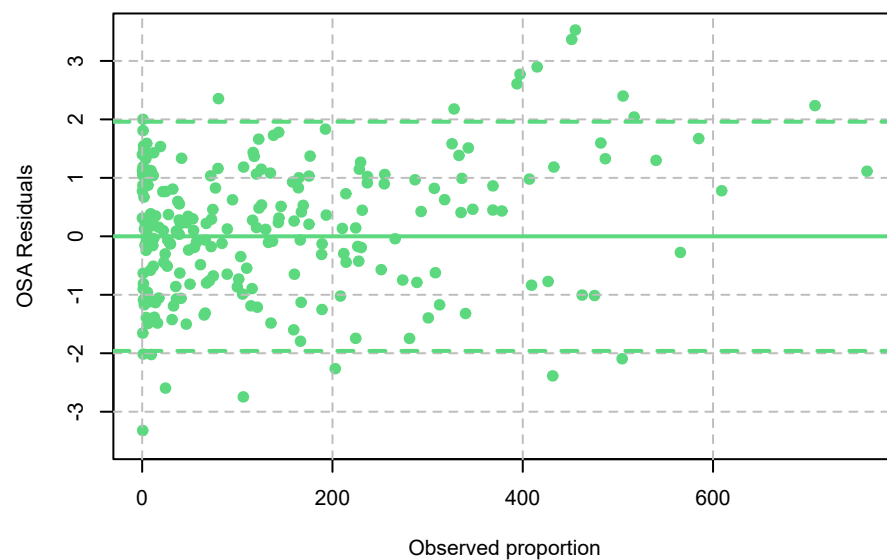
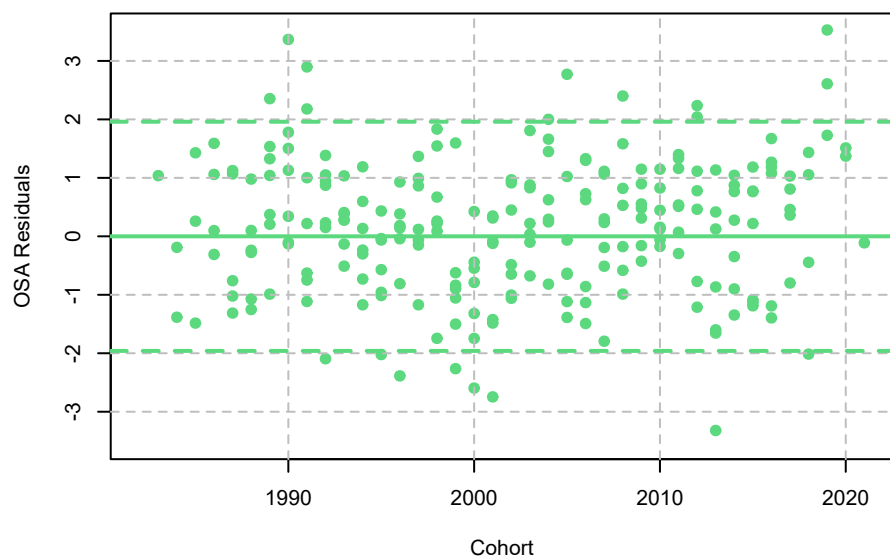
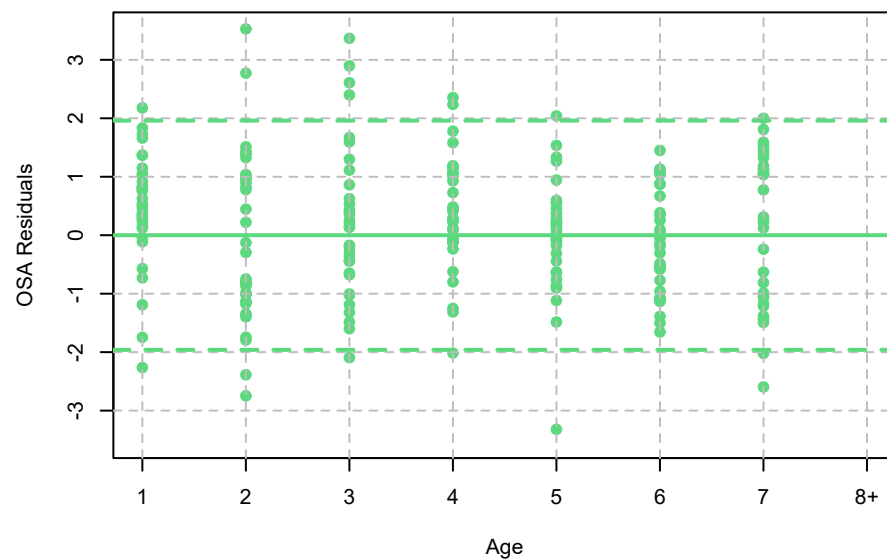


# age composition OSA residual diagnostics: North\_REC CPA

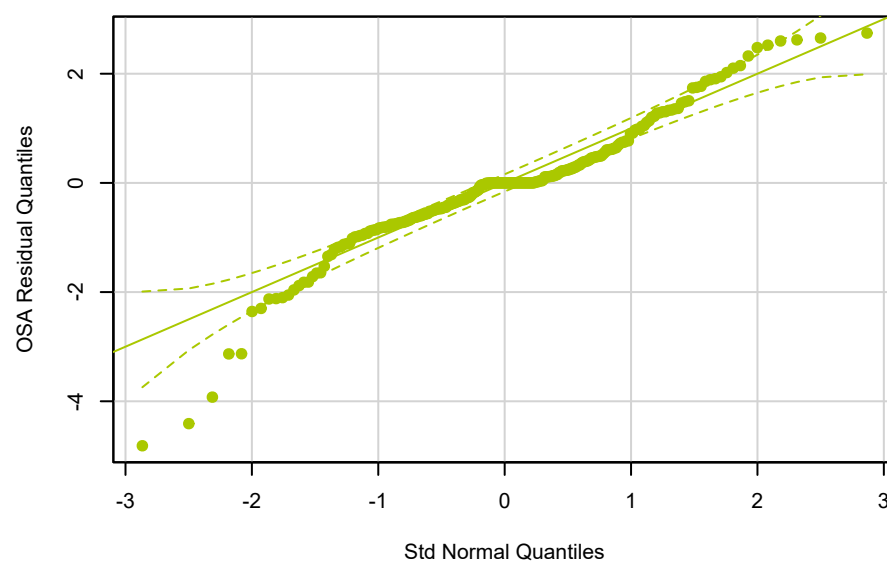
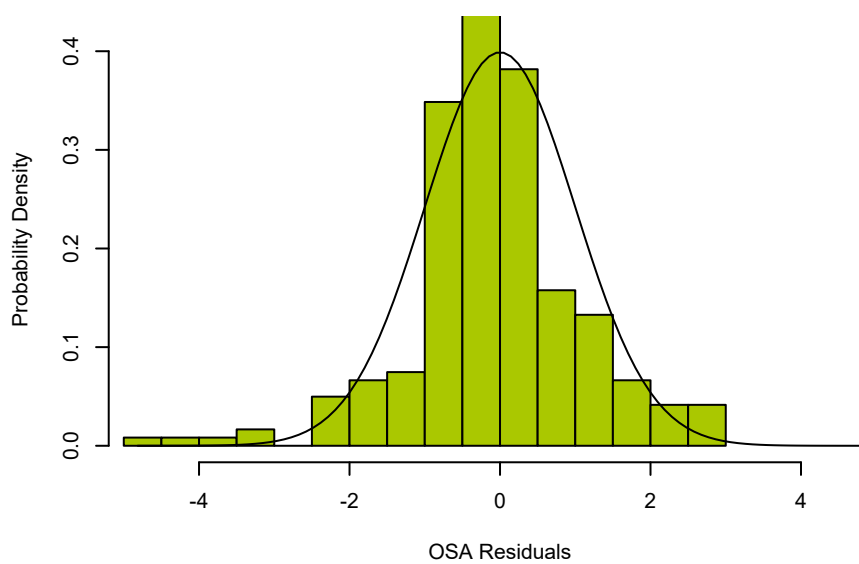
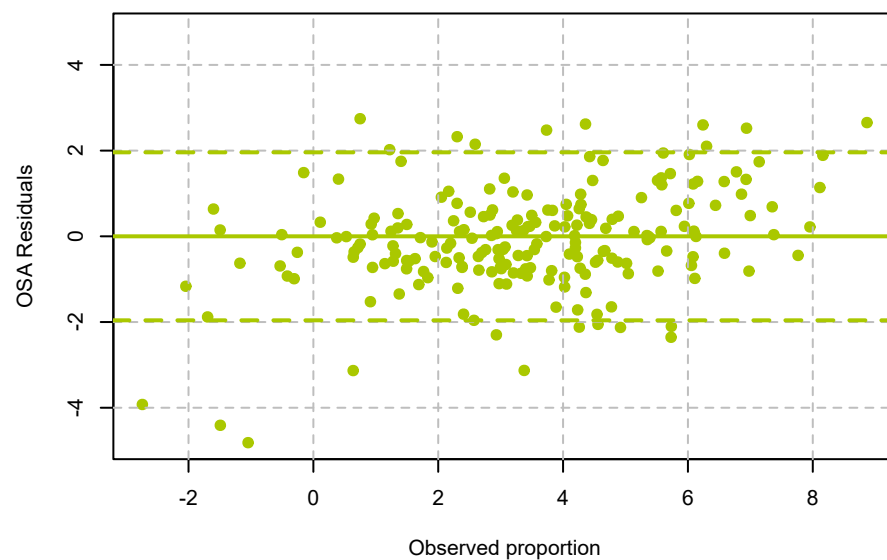
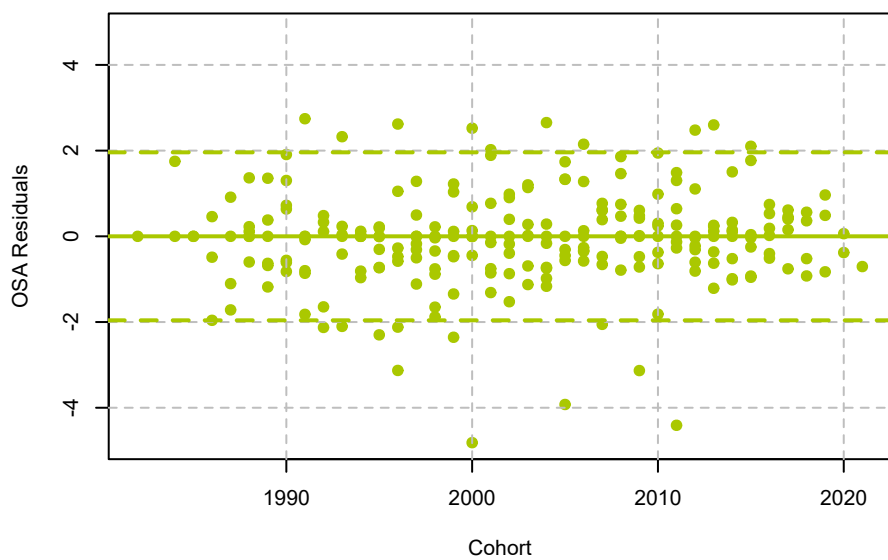
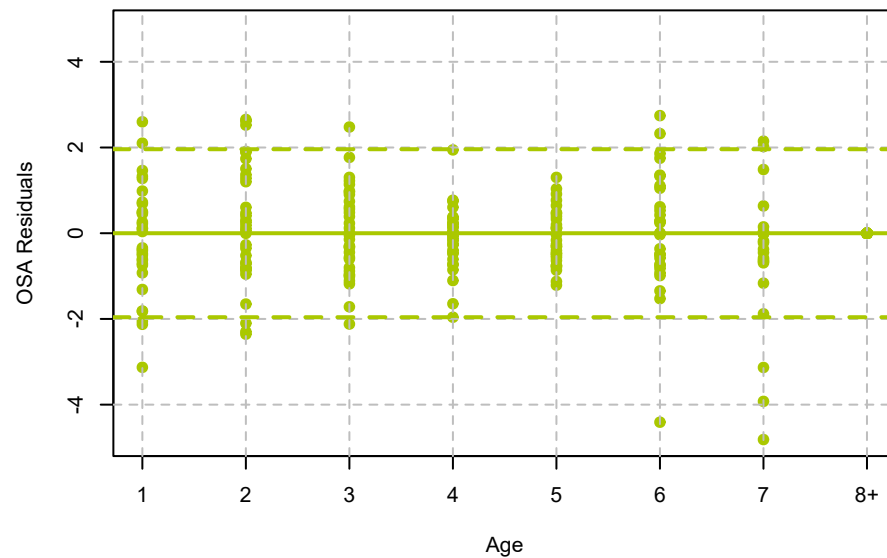
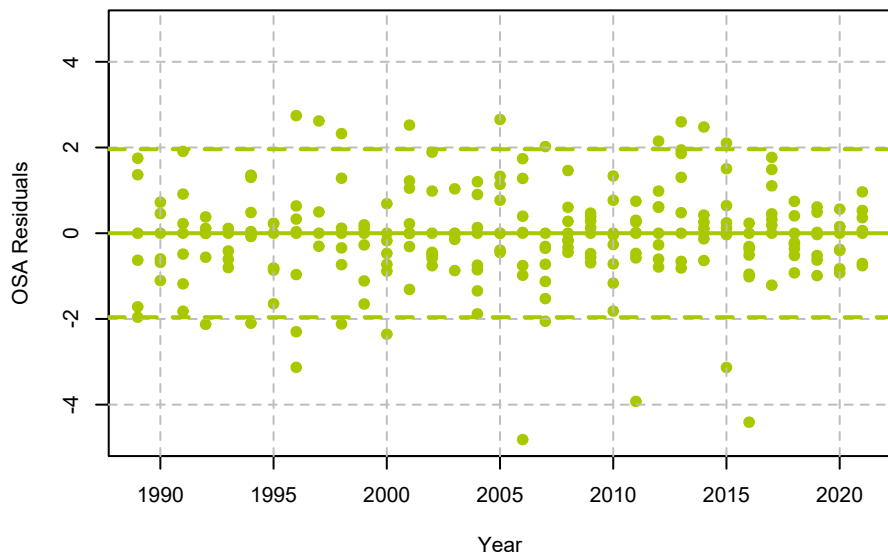




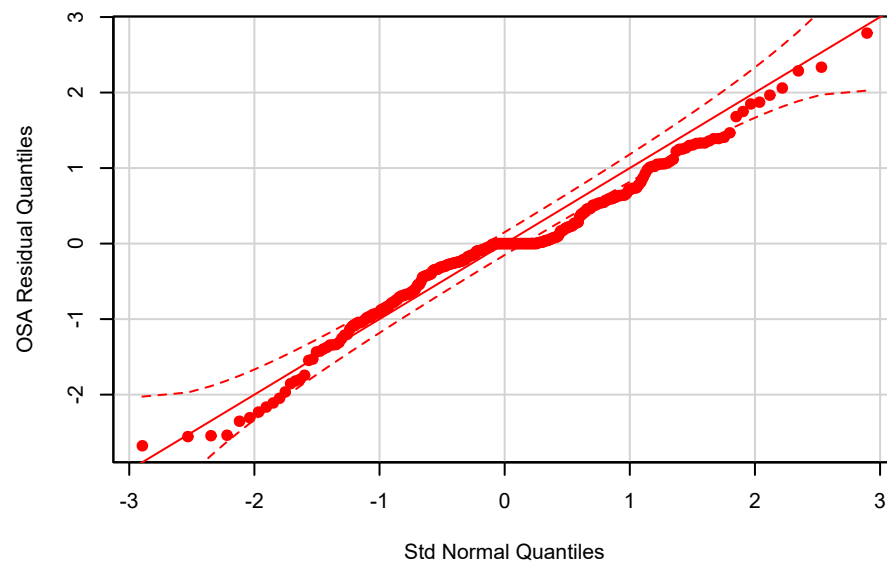
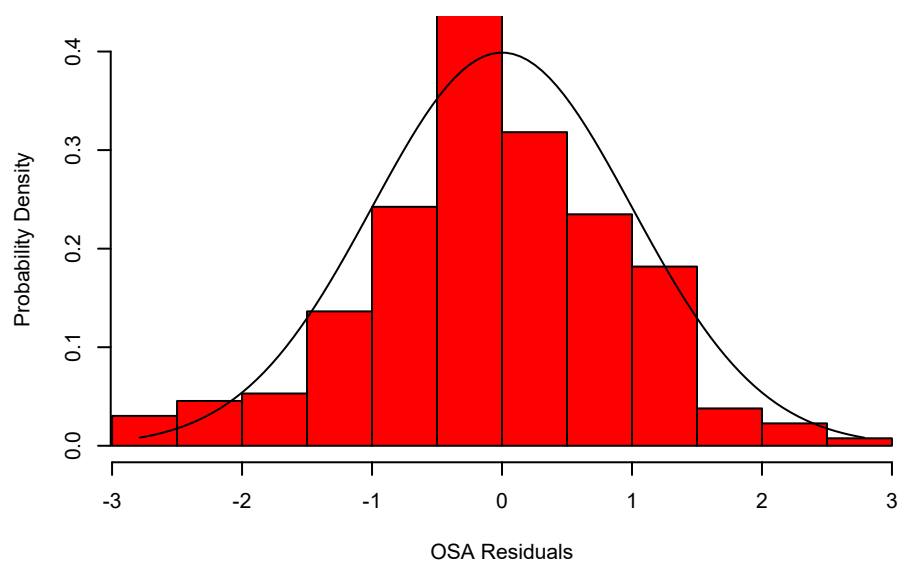
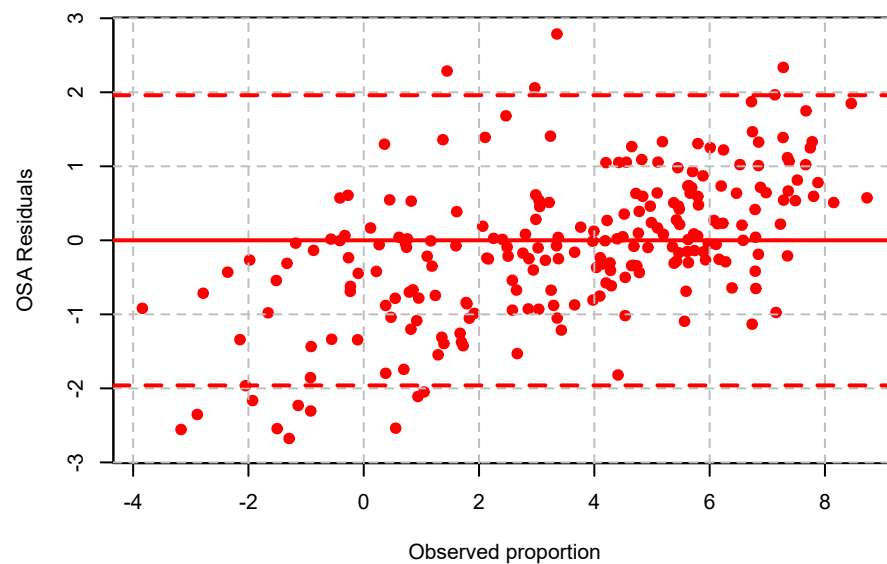
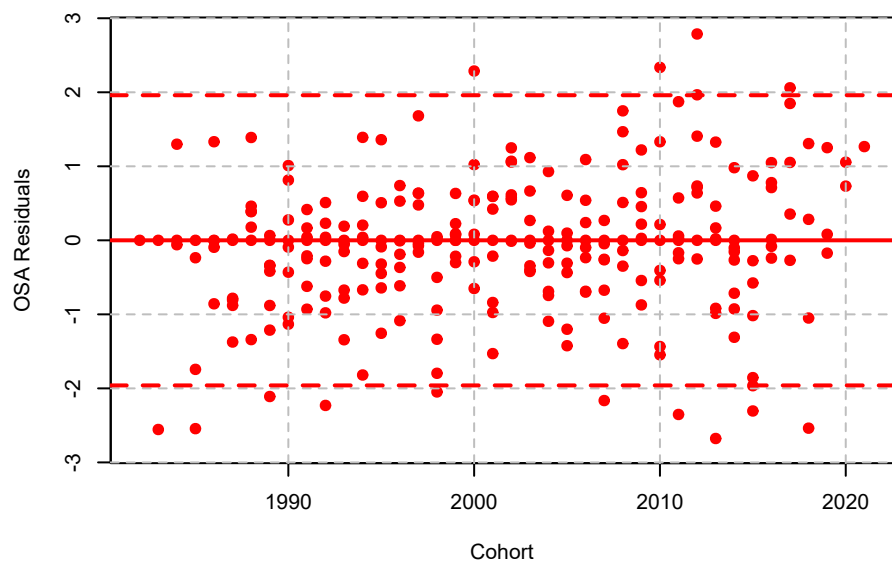
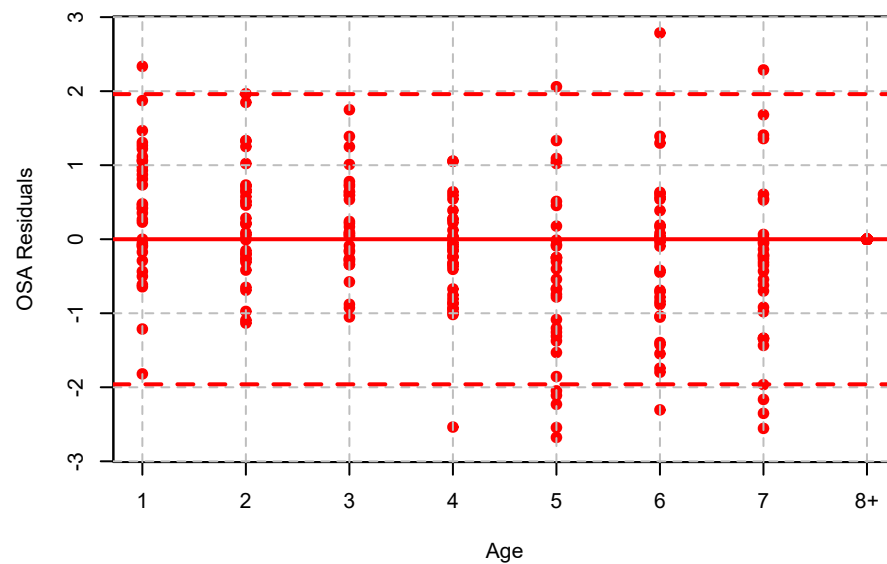
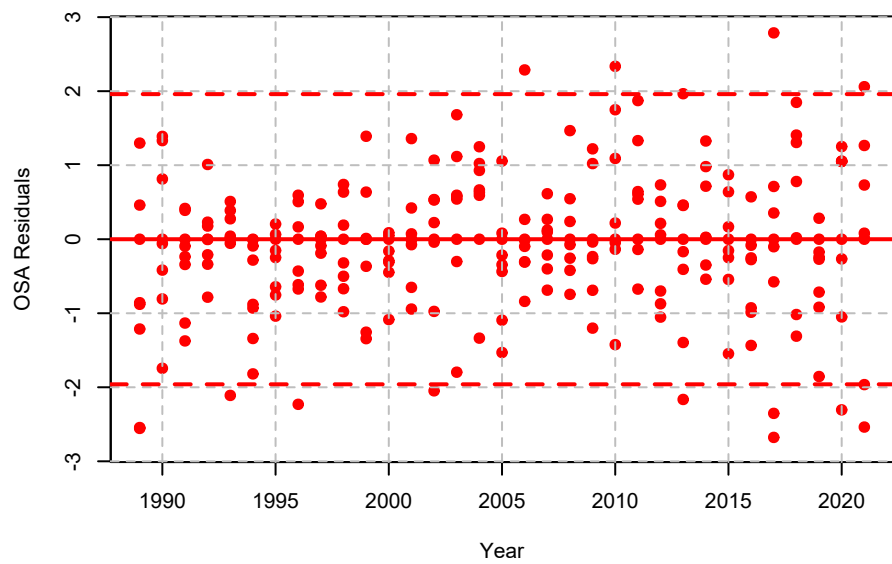
# age composition OSA residual diagnostics: North\_VAST Spring



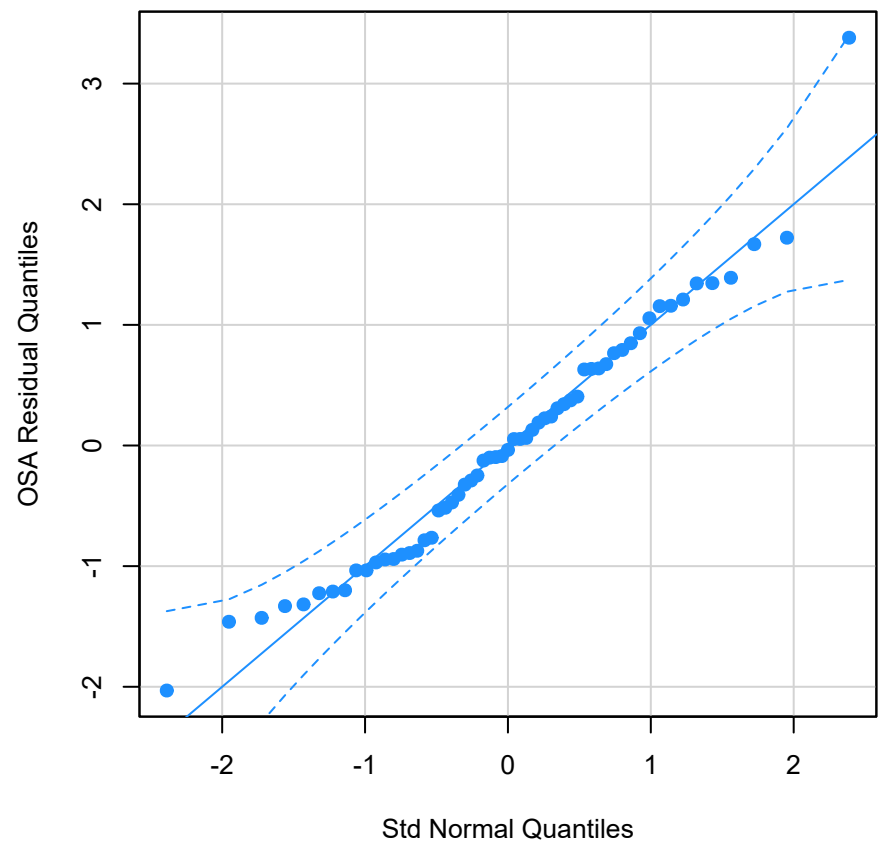
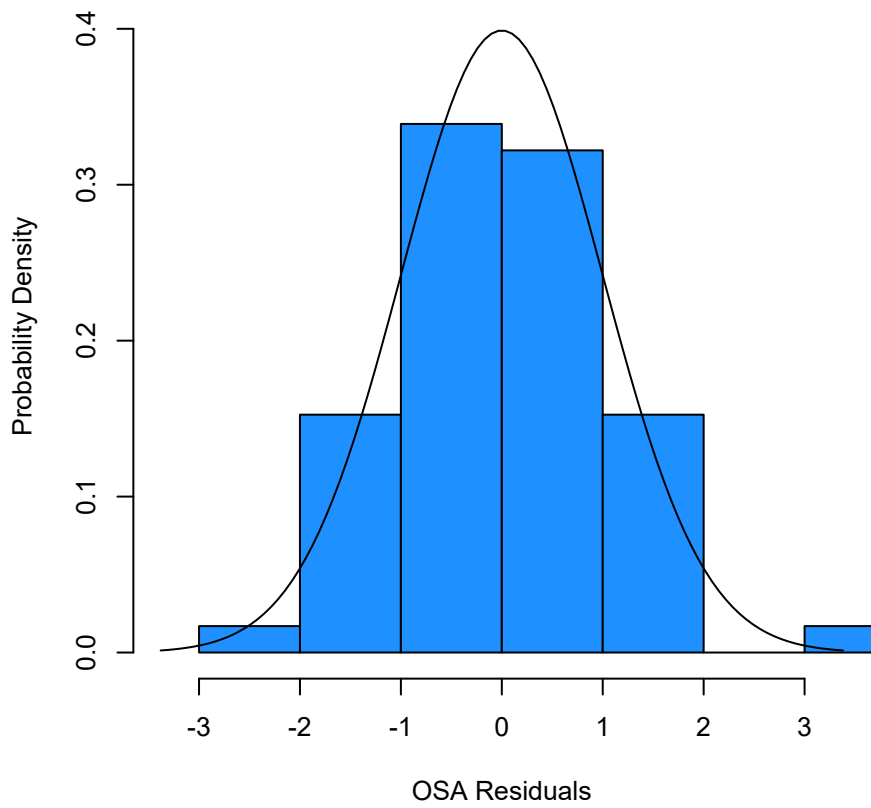
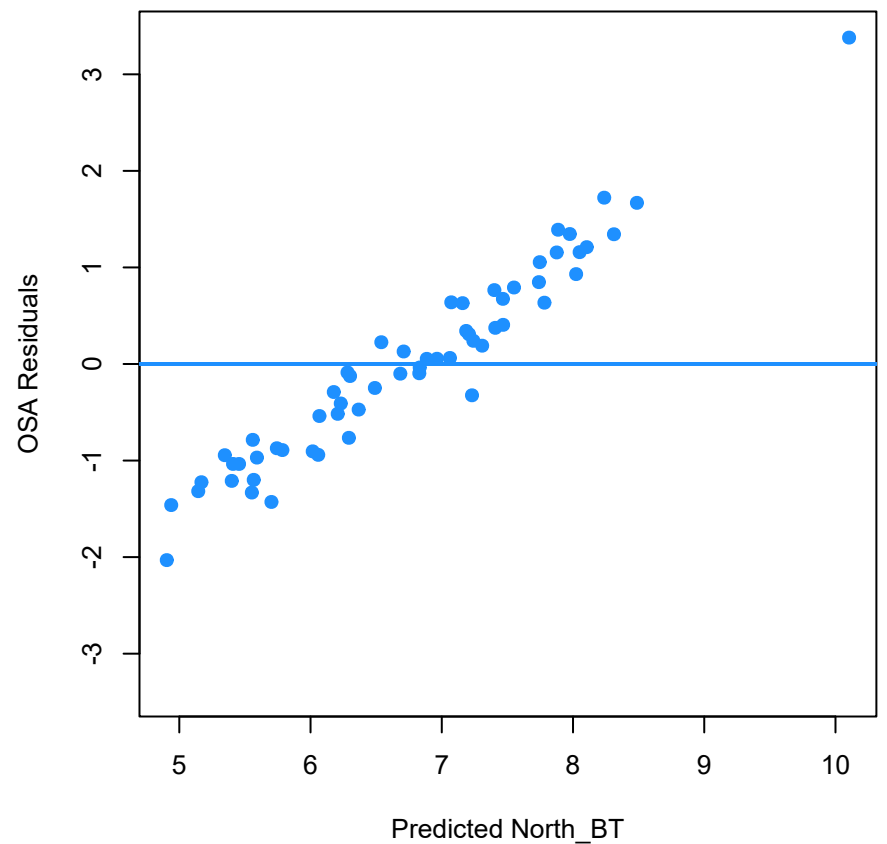
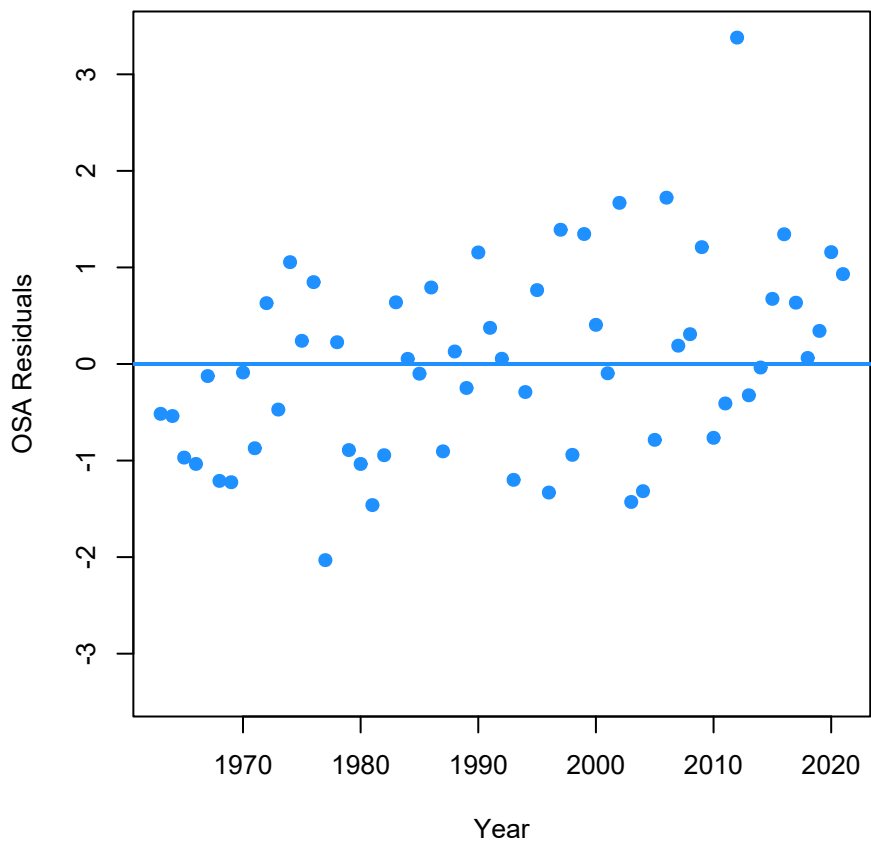
# age composition OSA residual diagnostics: South\_REC CPA



# age composition OSA residual diagnostics: South\_VAST Spring



# OSA residual diagnostics: North\_BT



# OSA residual diagnostics: South\_BT

