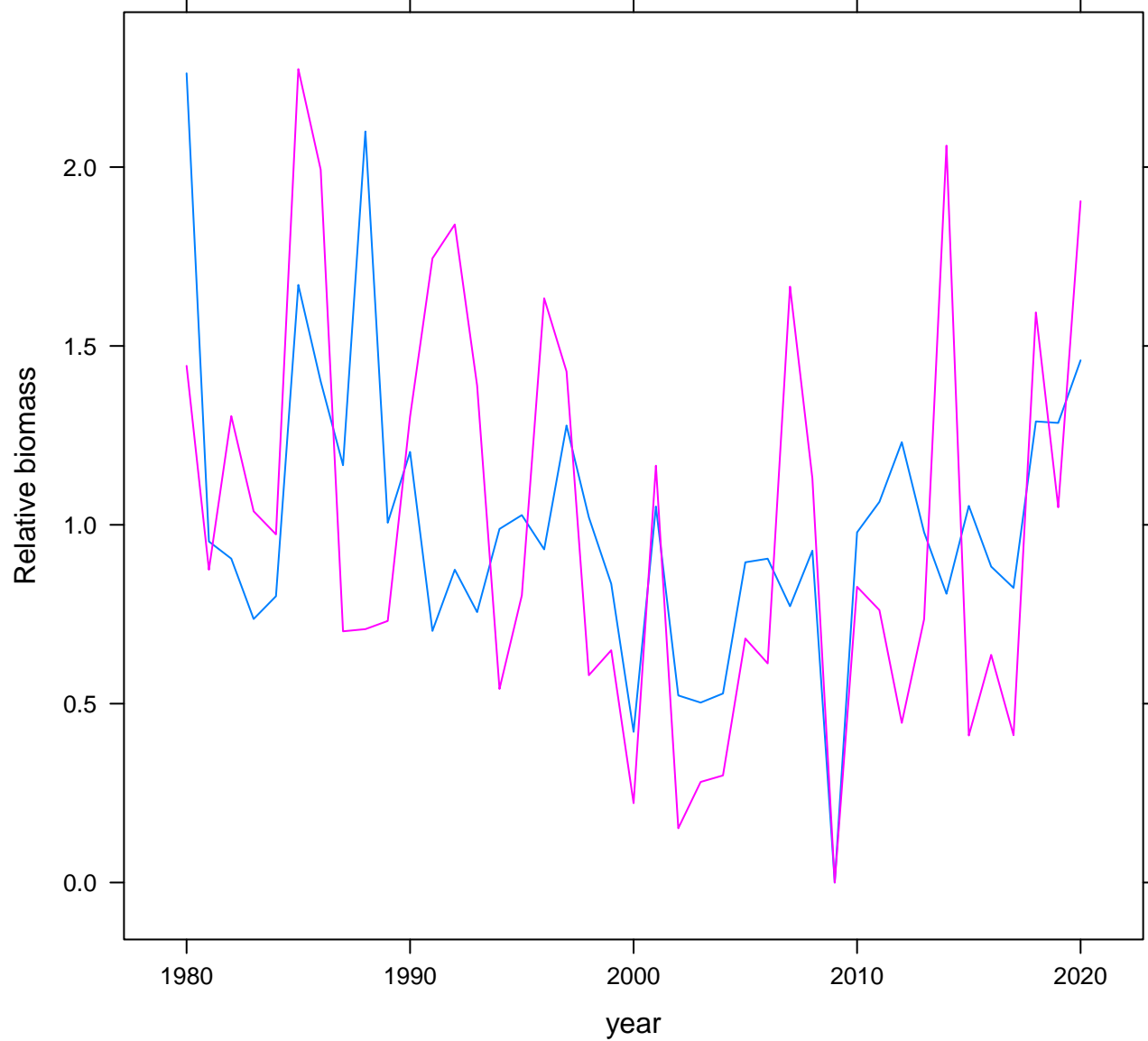
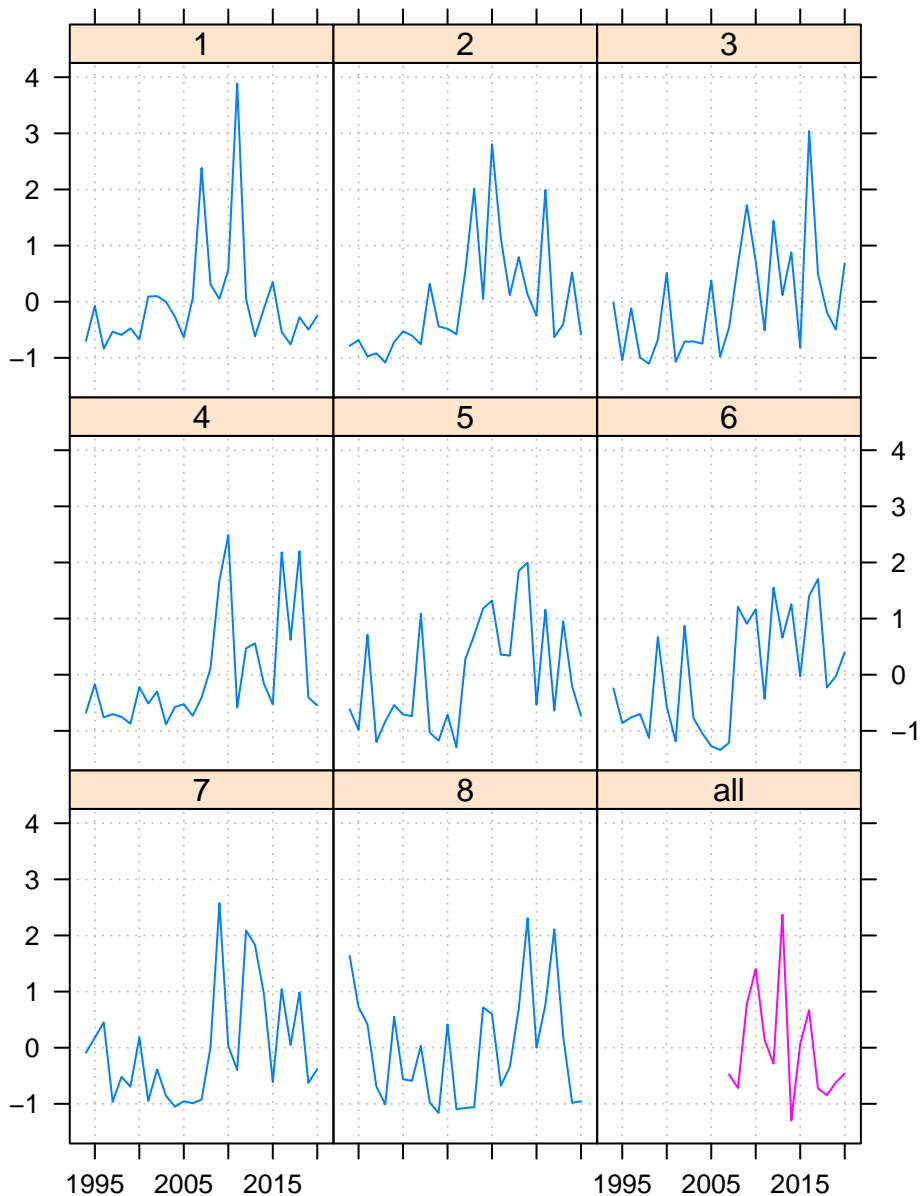


Mature – Immature biomass ratio

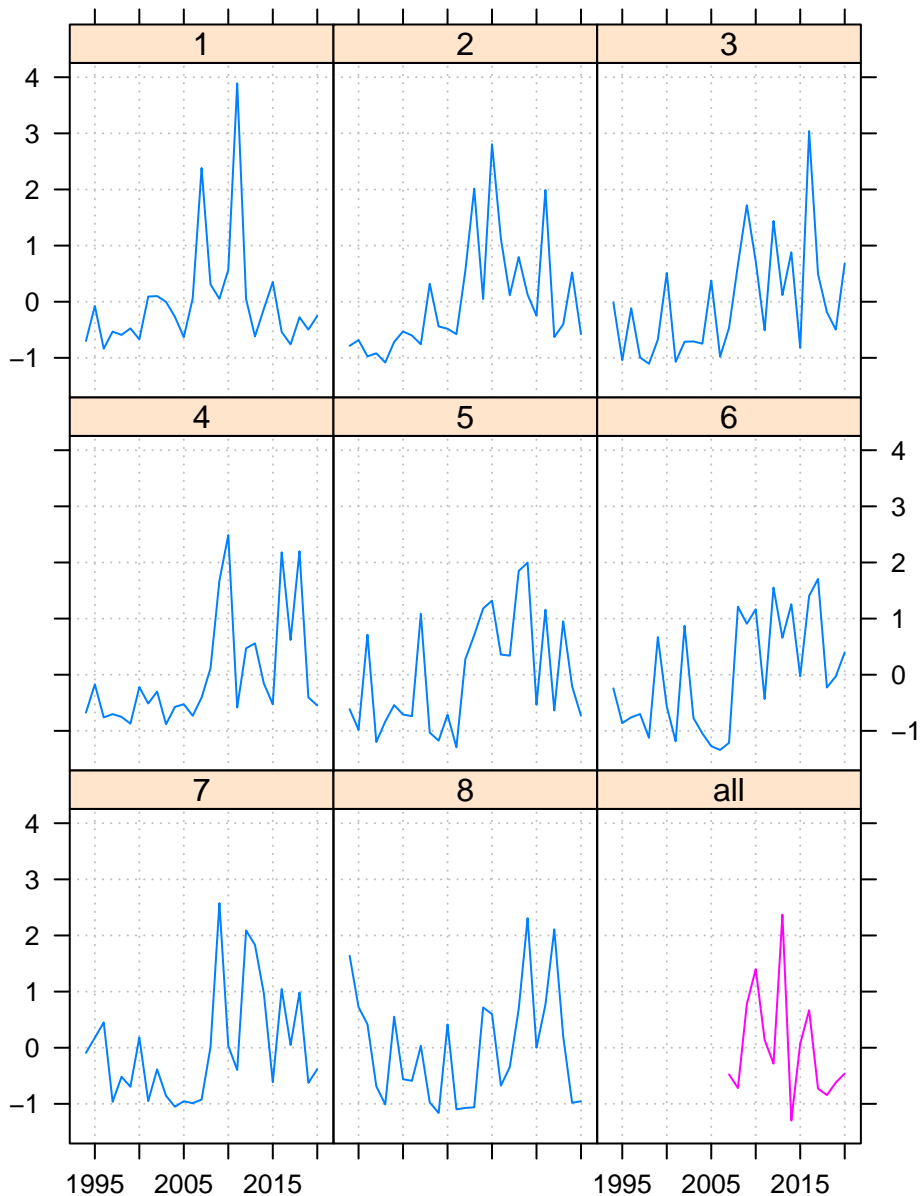
Mature
Immature



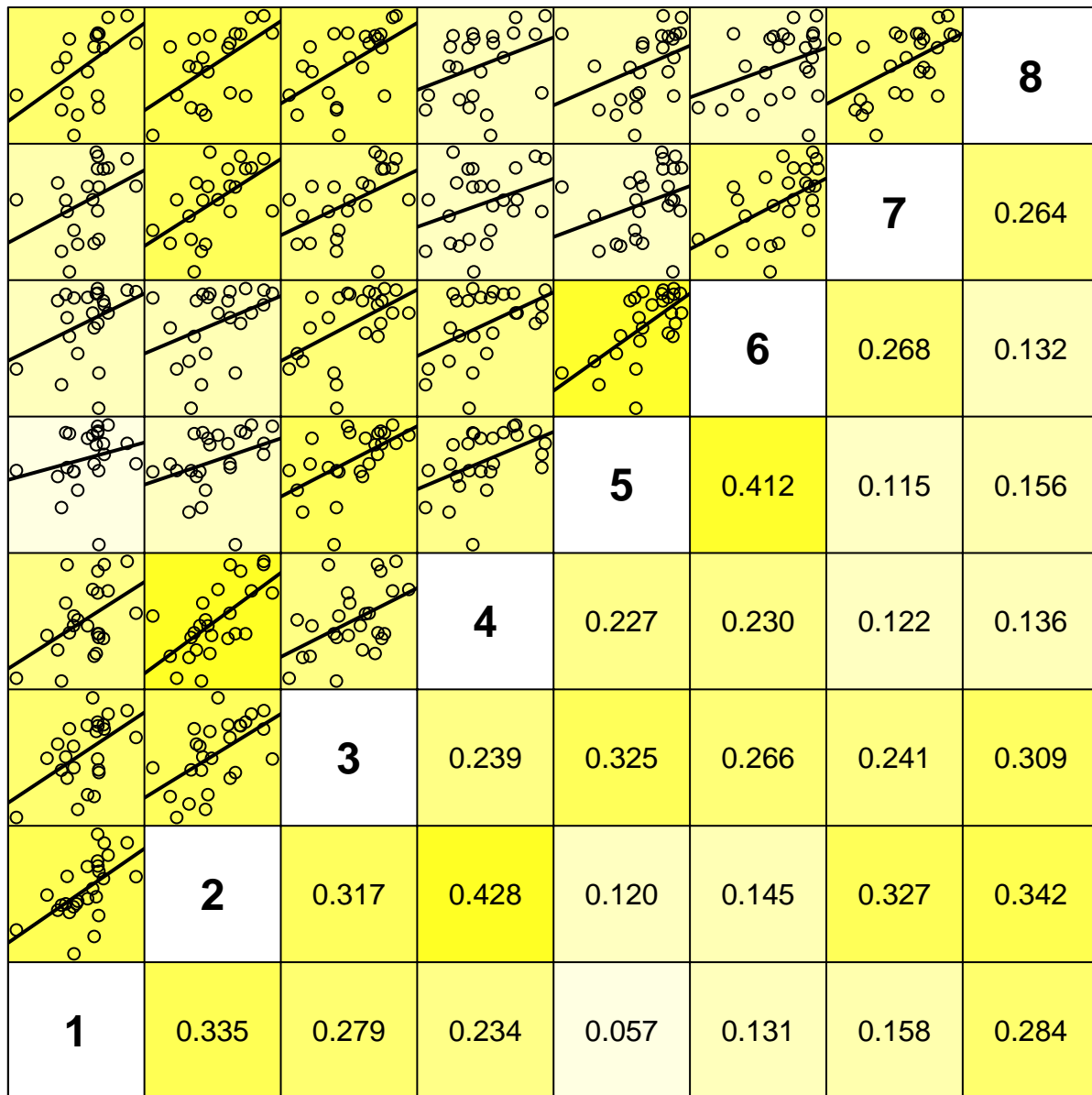
1995 2005 2015



1995 2005 2015



Log₁₀ (Index Value)

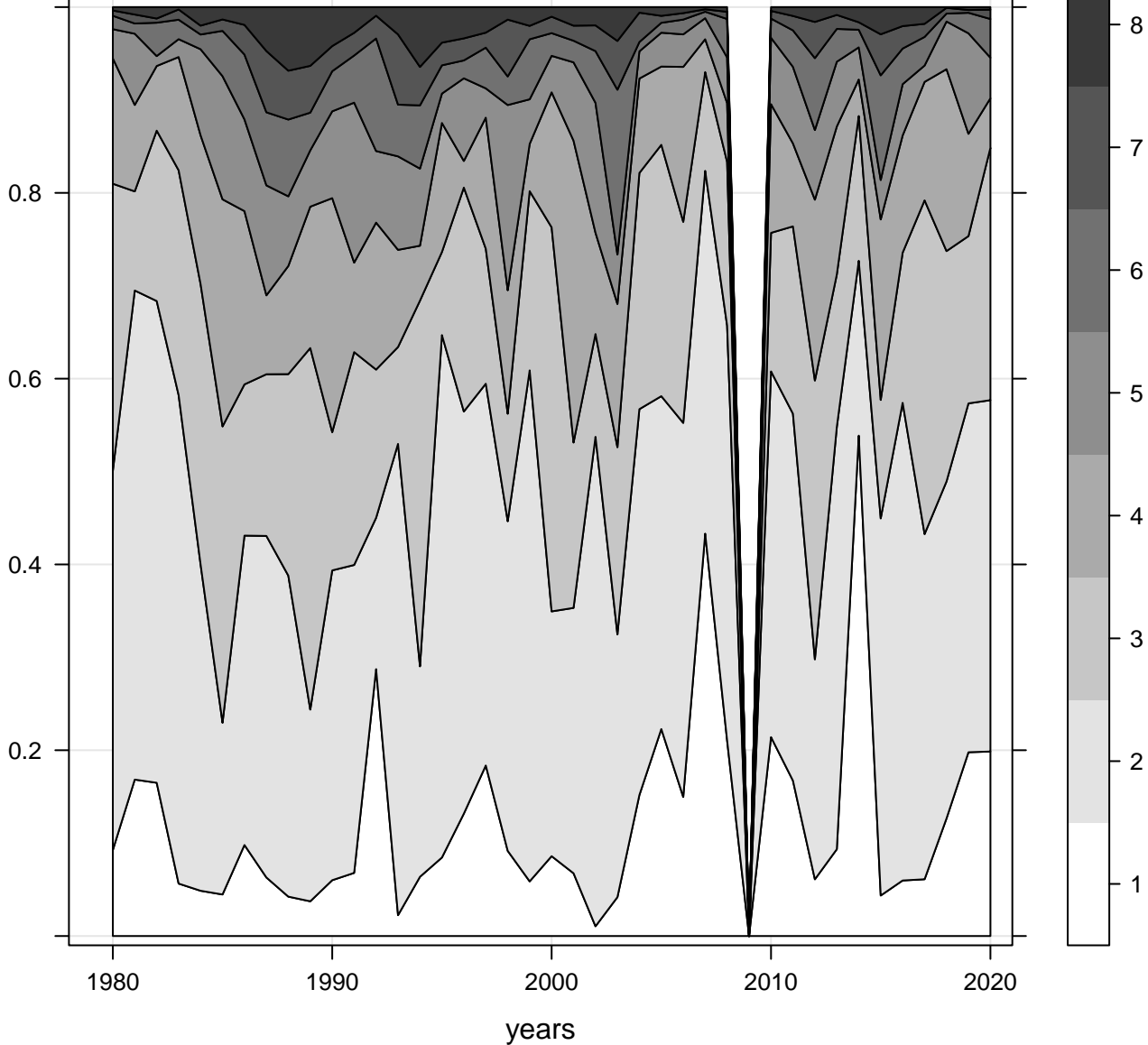


Log₁₀ (Index Value)

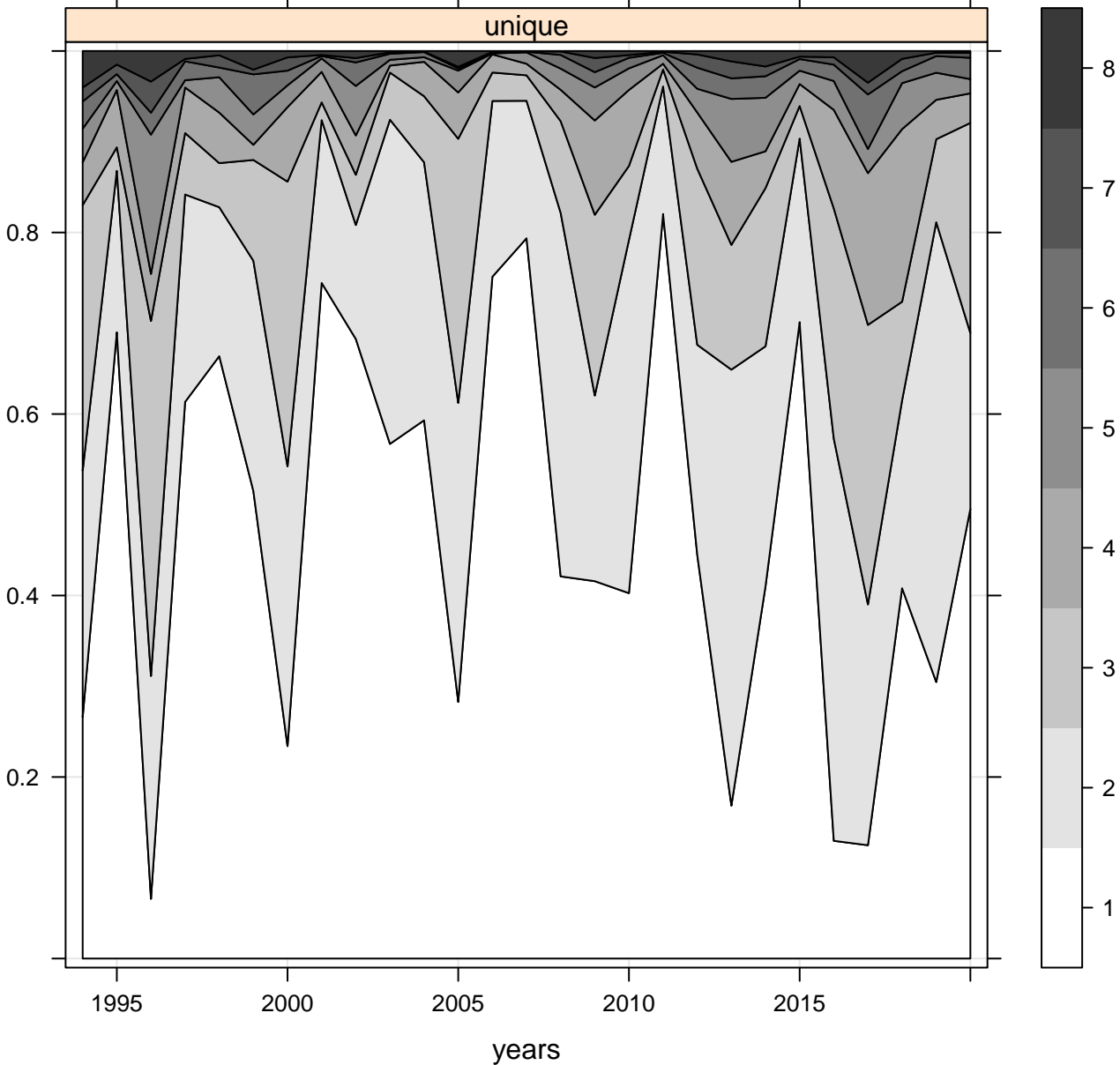
Lower right panels show the Coefficient of Determination (r^2)

Proportion of Catch numbers at age

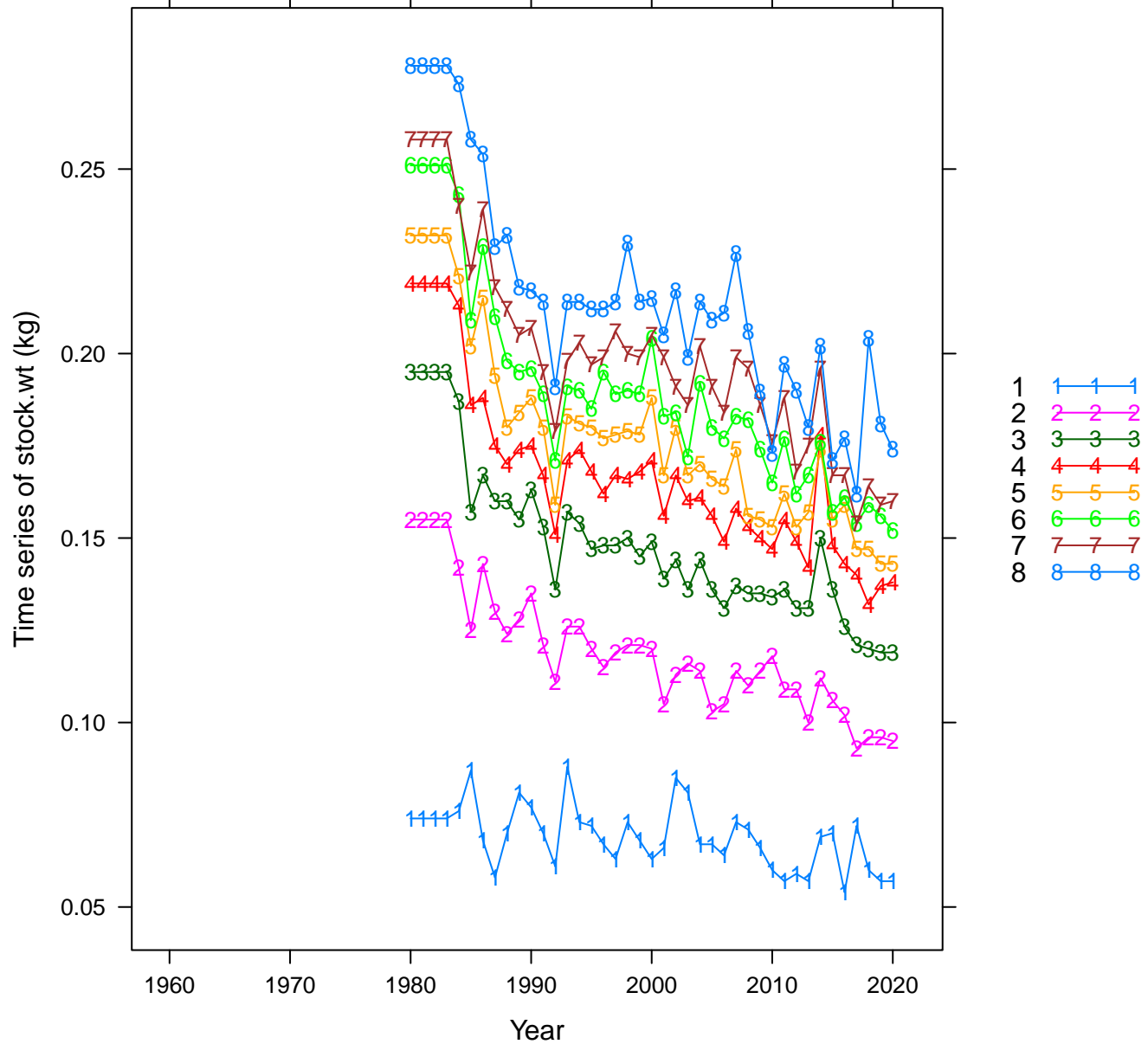
unique



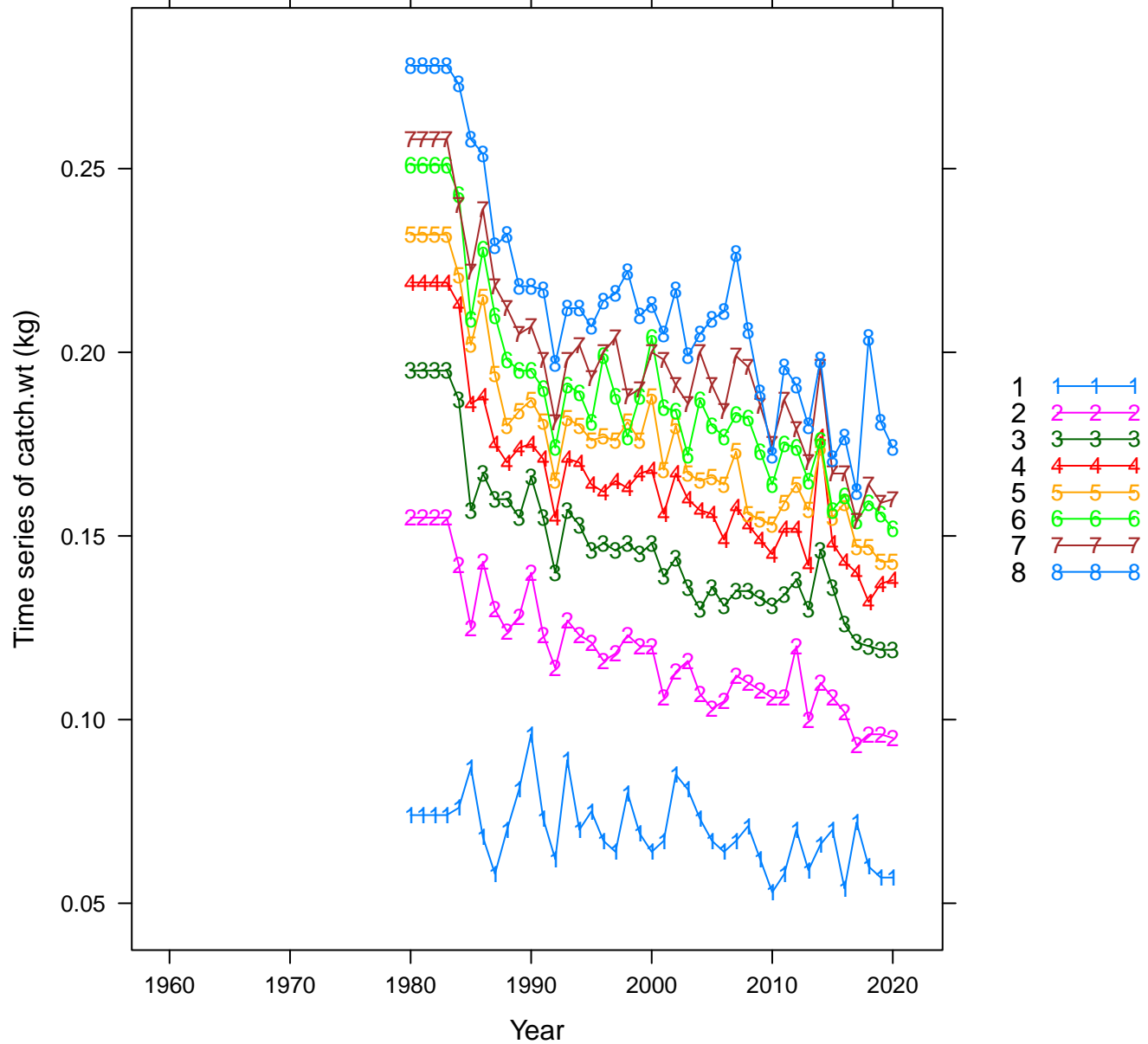
Proportion of Acoustic index at age



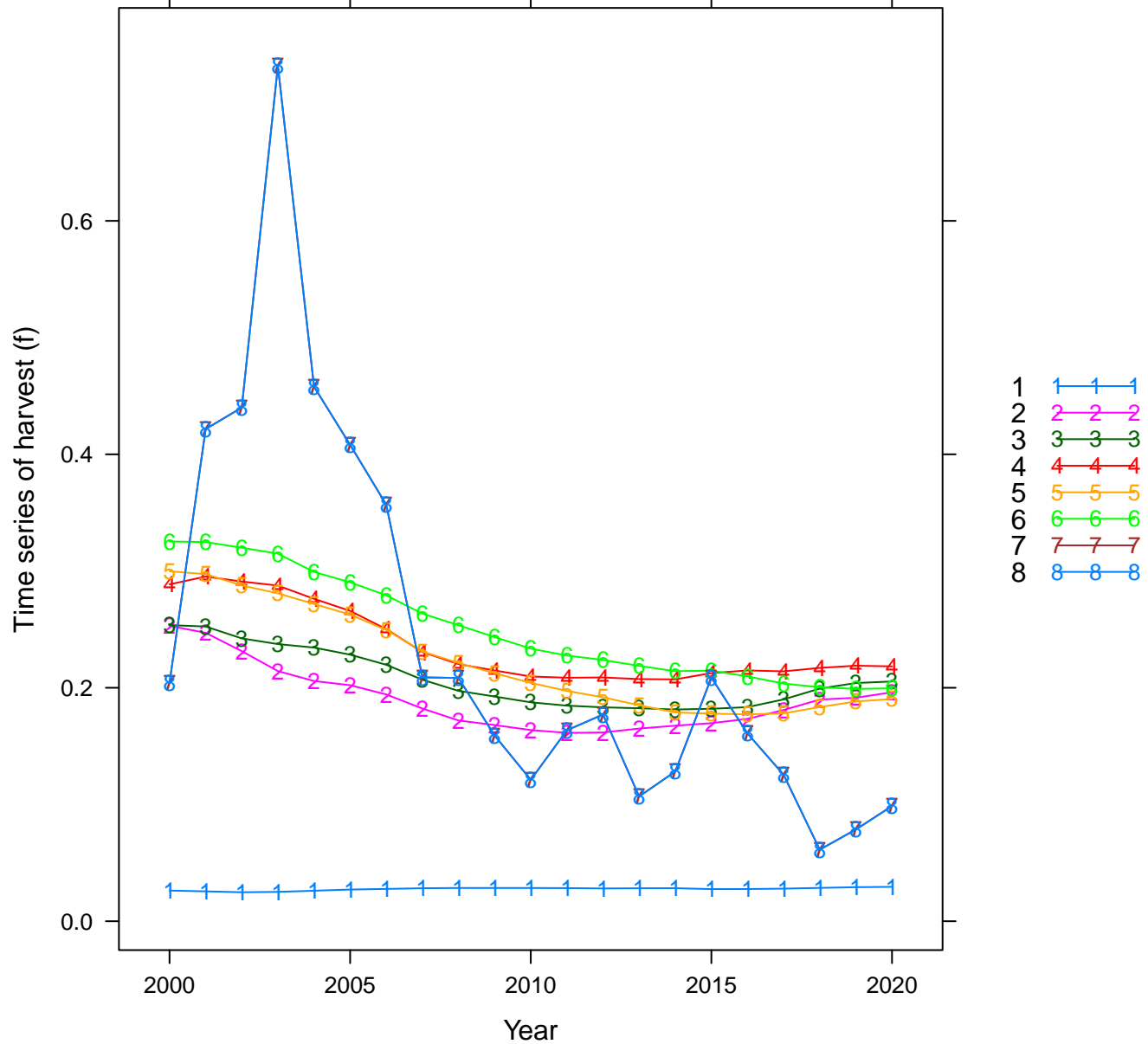
Irish Sea herring timeseries of stock.wt



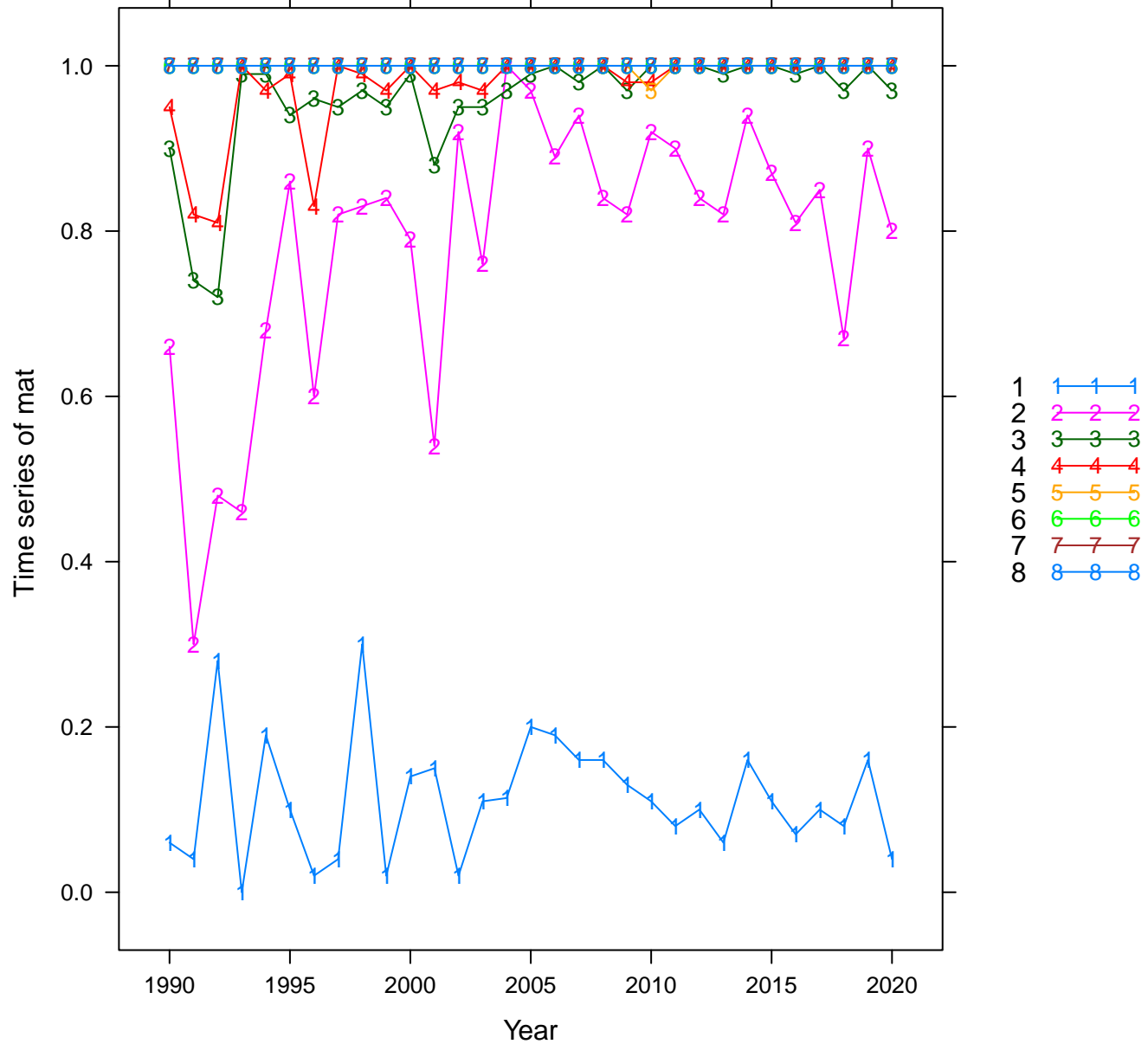
Irish Sea herring timeseries of catch.wt



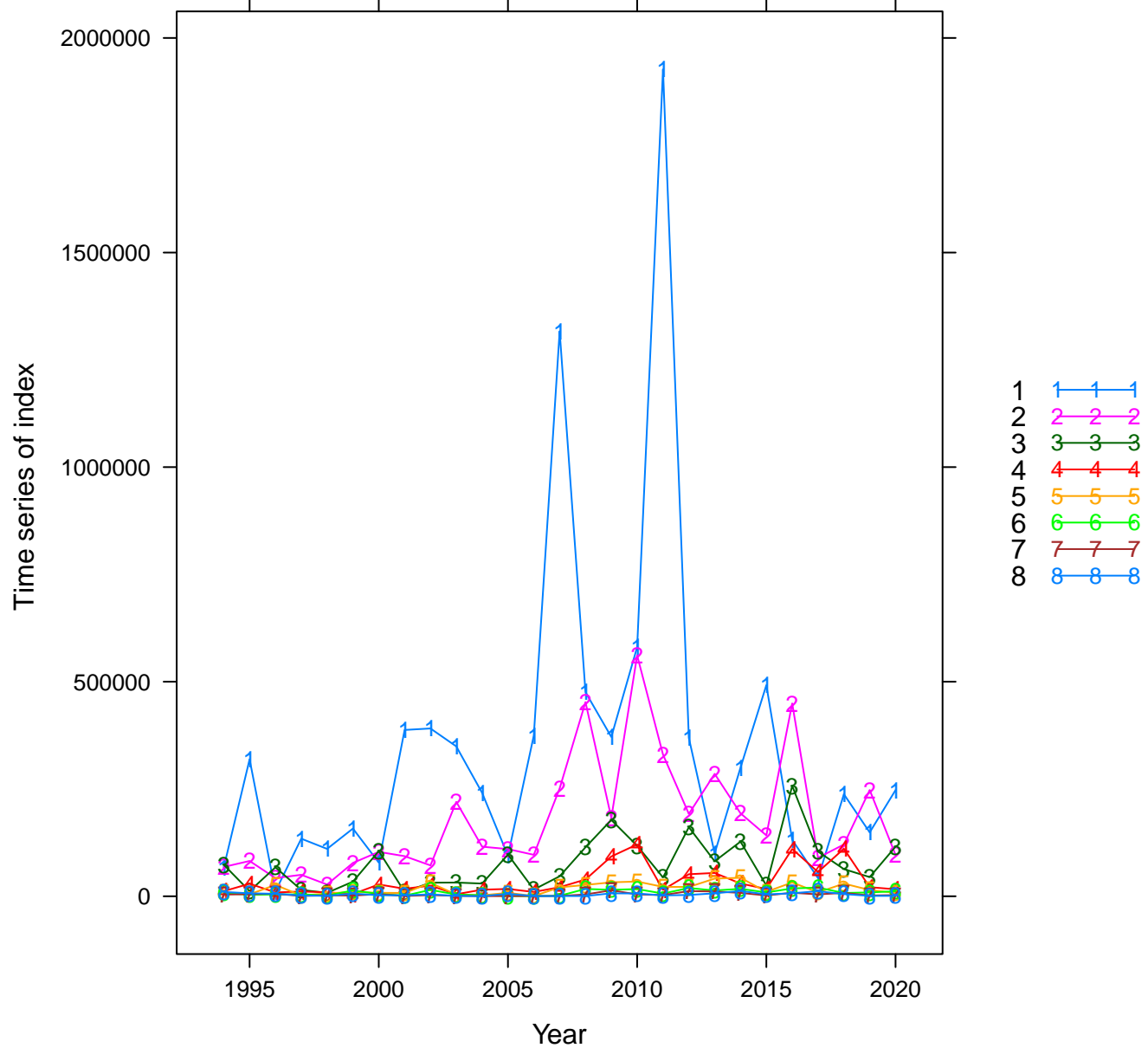
Irish Sea herring timeseries of harvest



Irish Sea herring timeseries of mat

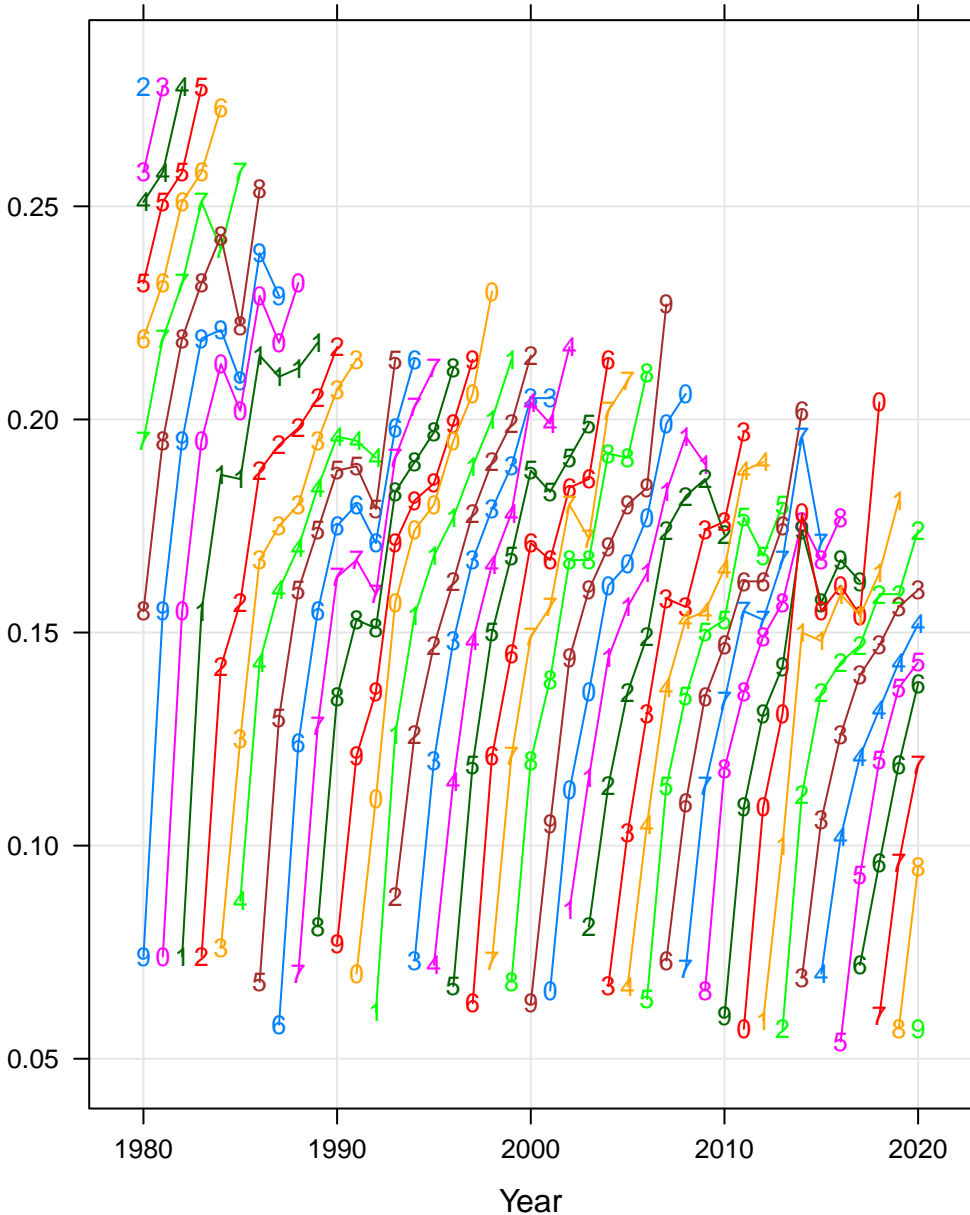


AC(VIIaN) timeseries of index



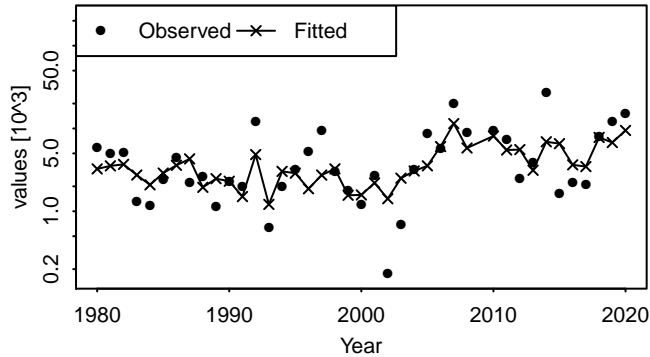
Irish Sea herring Weight in the stock by cohort

Weight in the stock (kg)

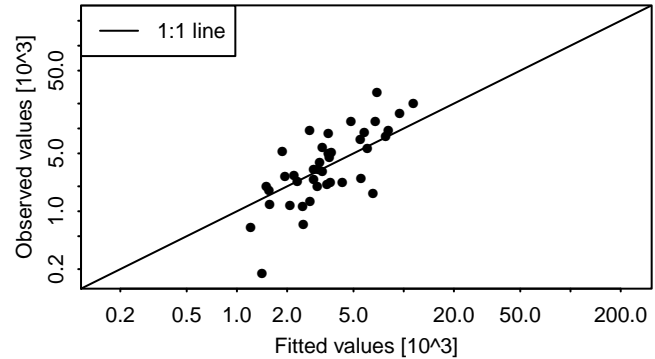


1974 4-4-4
1975 5-5-5
1976 6-6-6
1977 7-7-7
1978 8-8-8
1979 9-9-9
1980 0-0-0
1981 1-1-1
1982 2-2-2
1983 3-3-3
1984 4-4-4
1985 5-5-5
1986 6-6-6
1987 7-7-7
1988 8-8-8
1989 9-9-9
1990 0-0-0
1991 1-1-1
1992 2-2-2
1993 3-3-3
1994 4-4-4
1995 5-5-5
1996 6-6-6
1997 7-7-7
1998 8-8-8
1999 9-9-9
2000 0-0-0
2001 1-1-1
2002 2-2-2
2003 3-3-3
2004 4-4-4
2005 5-5-5
2006 6-6-6
2007 7-7-7
2008 8-8-8
2009 9-9-9
2010 0-0-0
2011 1-1-1
2012 2-2-2
2013 3-3-3
2014 4-4-4
2015 5-5-5
2016 6-6-6
2017 7-7-7

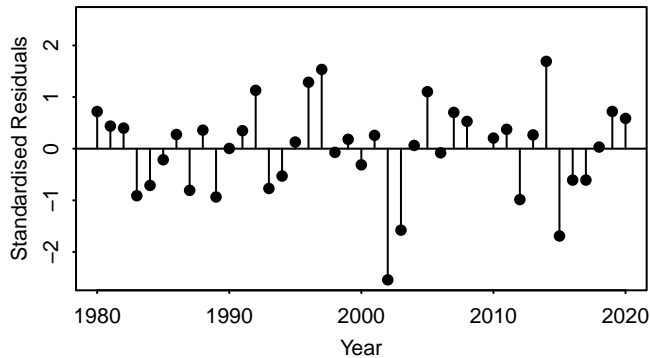
a) Observed and fitted values time series



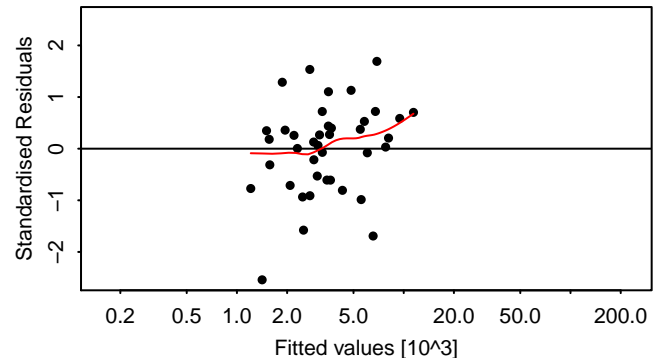
b) Observed vs fitted values



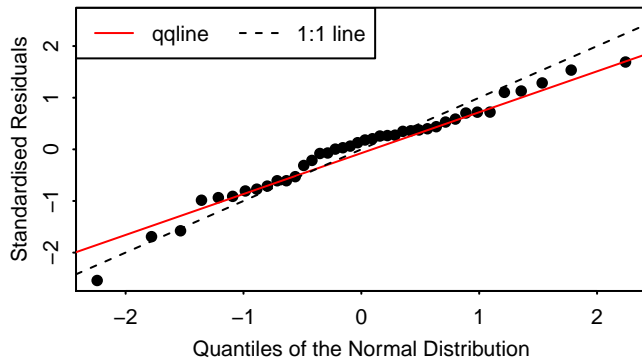
c) Standardised residuals over time



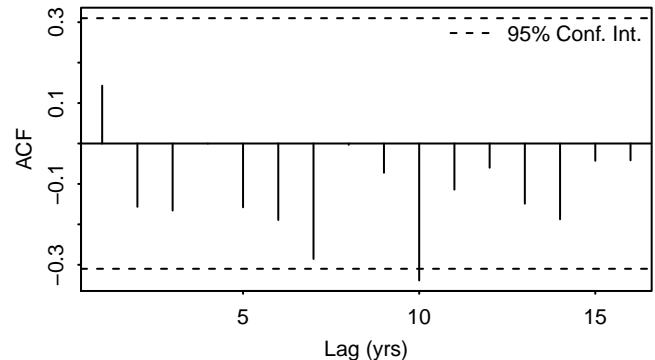
d) Tukey–Anscombe plot



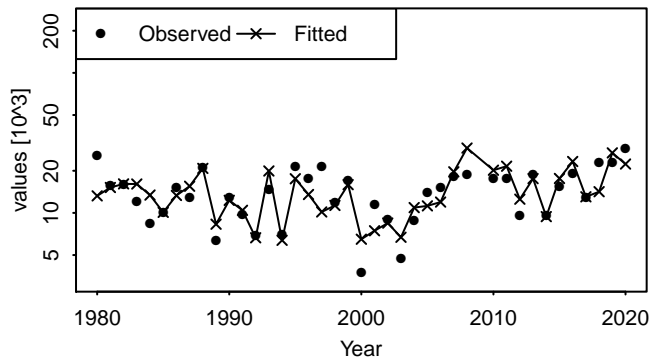
e) Normal Q–Q plot



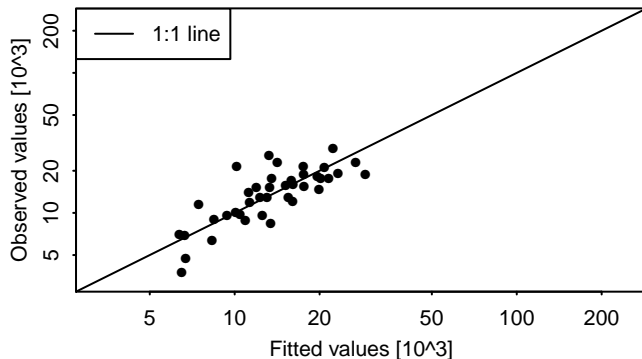
f) Autocorrelation of Residuals



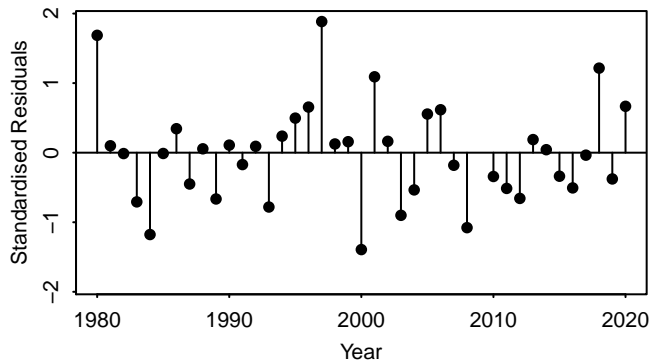
a) Observed and fitted values time series



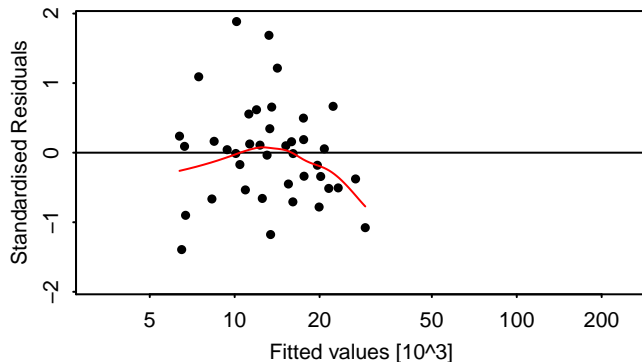
b) Observed vs fitted values



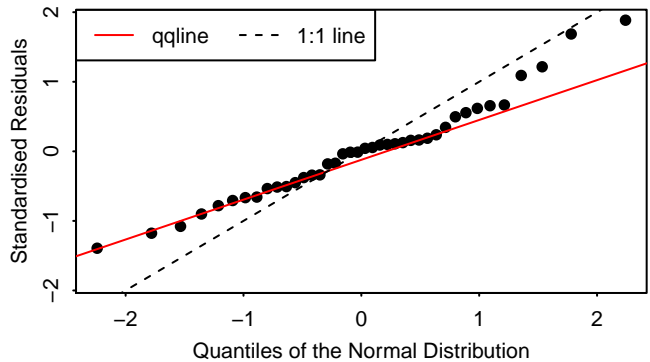
c) Standardised residuals over time



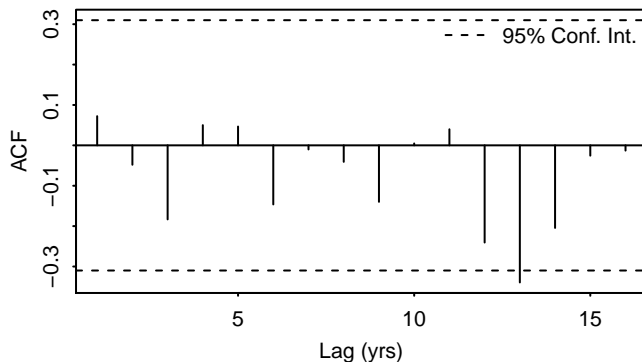
d) Tukey–Anscombe plot



e) Normal Q–Q plot

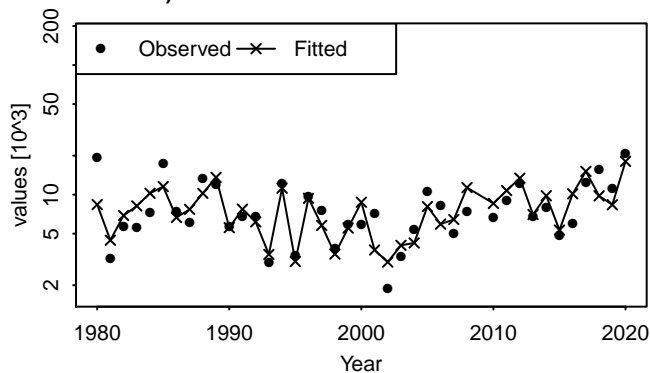


f) Autocorrelation of Residuals

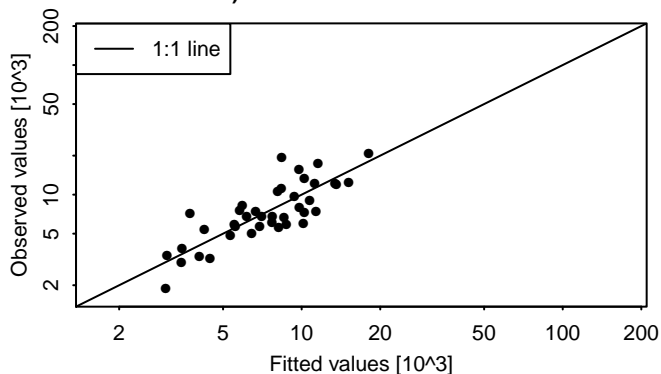


ISH_assessment 2021 Diagnostics – Fleet 1, age 3

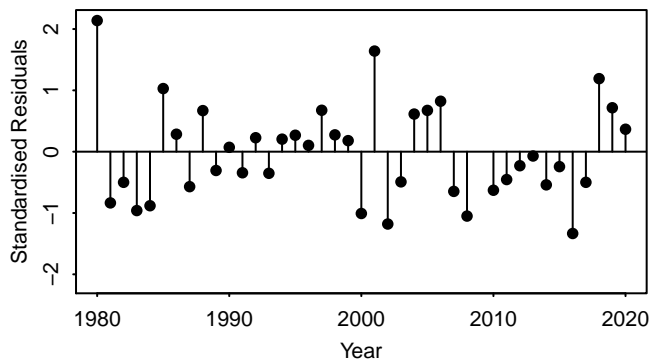
a) Observed and fitted values time series



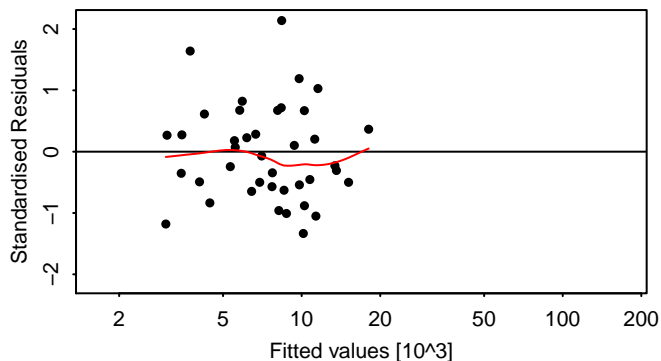
b) Observed vs fitted values



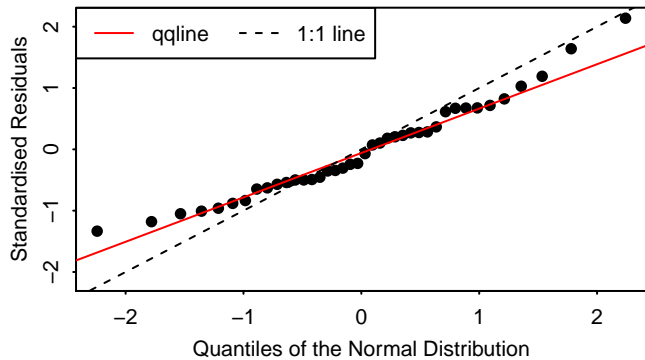
c) Standardised residuals over time



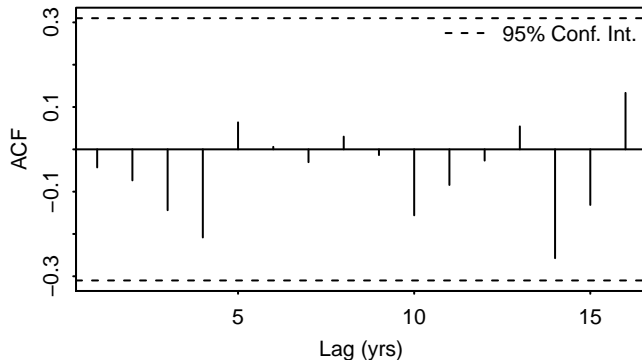
d) Tukey–Anscombe plot



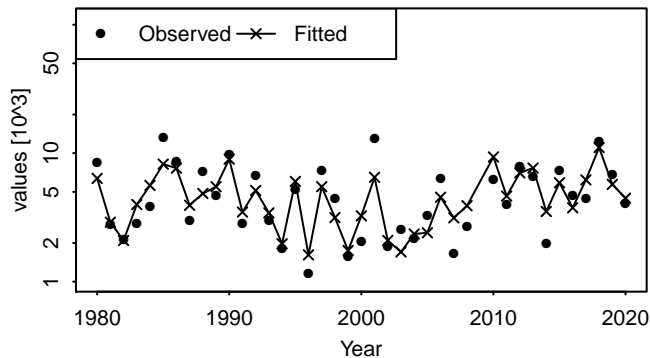
e) Normal Q–Q plot



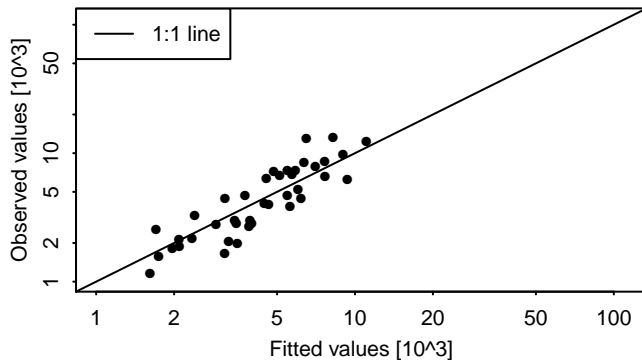
f) Autocorrelation of Residuals



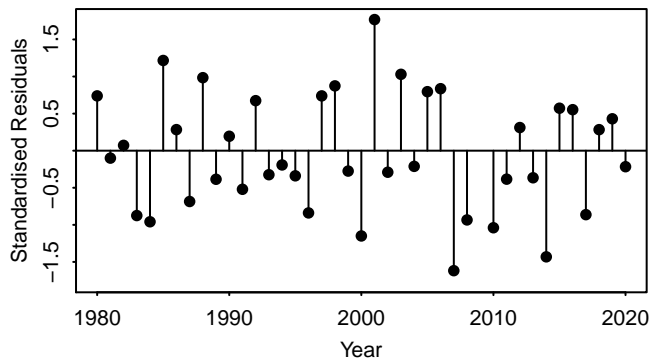
a) Observed and fitted values time series



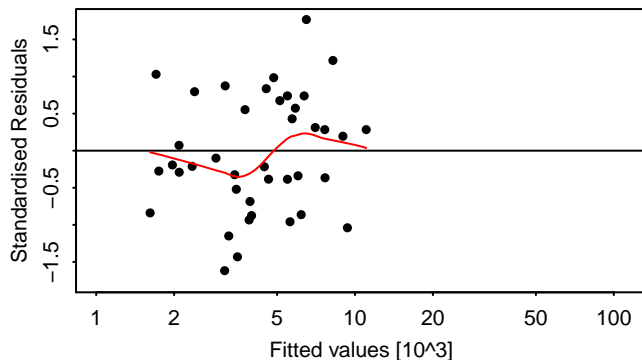
b) Observed vs fitted values



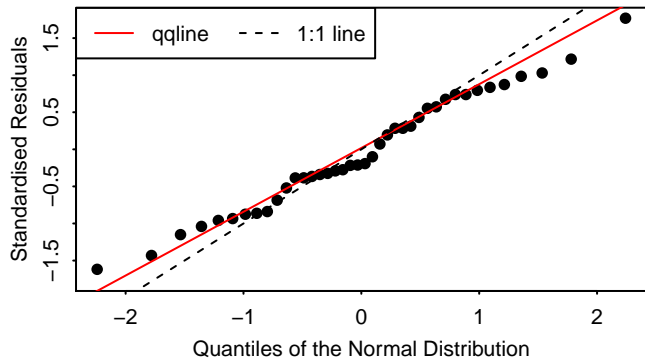
c) Standardised residuals over time



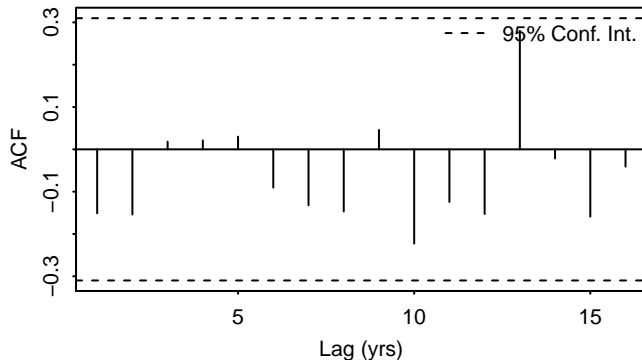
d) Tukey–Anscombe plot



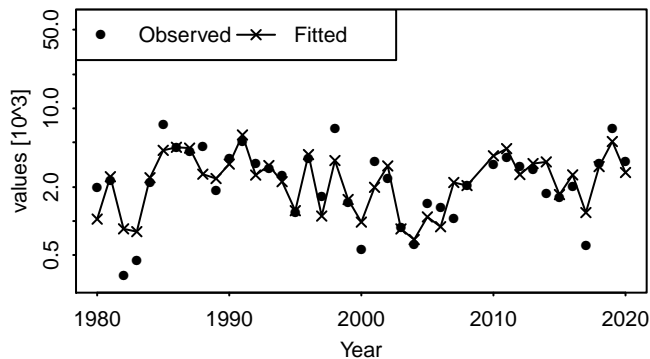
e) Normal Q–Q plot



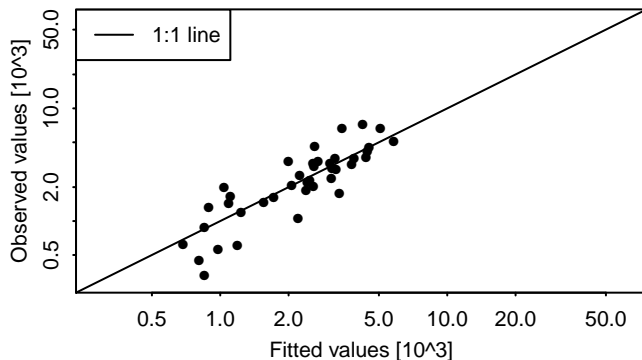
f) Autocorrelation of Residuals



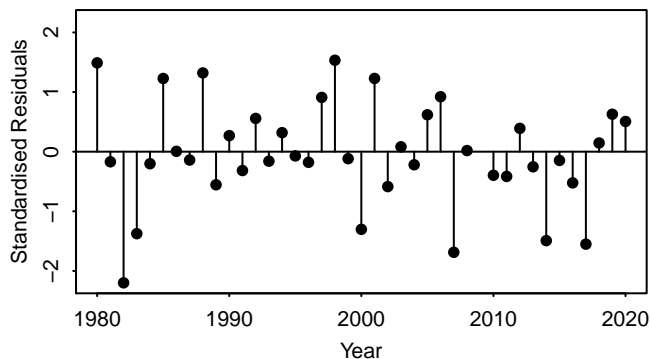
a) Observed and fitted values time series



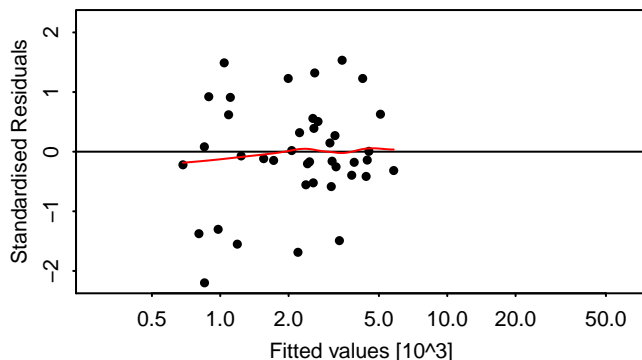
b) Observed vs fitted values



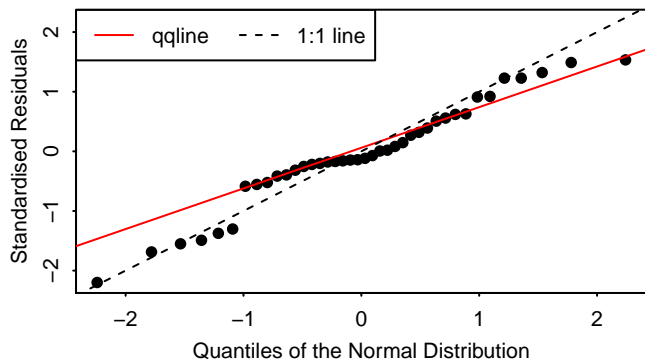
c) Standardised residuals over time



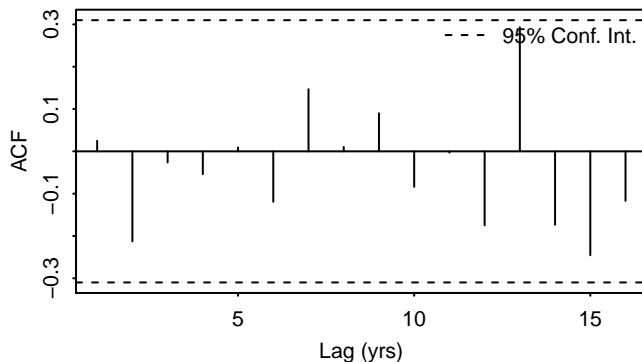
d) Tukey–Anscombe plot



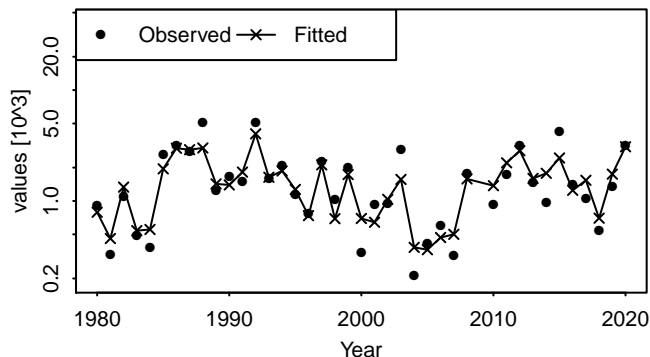
e) Normal Q–Q plot



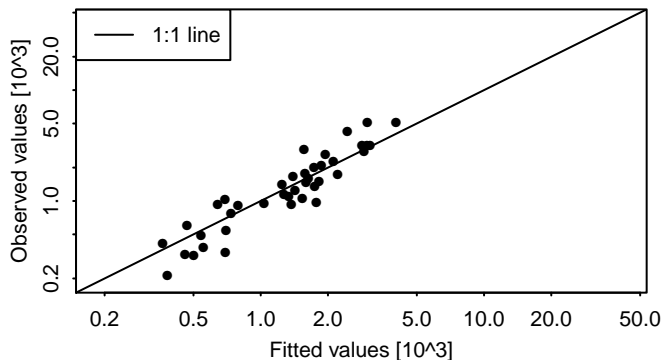
f) Autocorrelation of Residuals



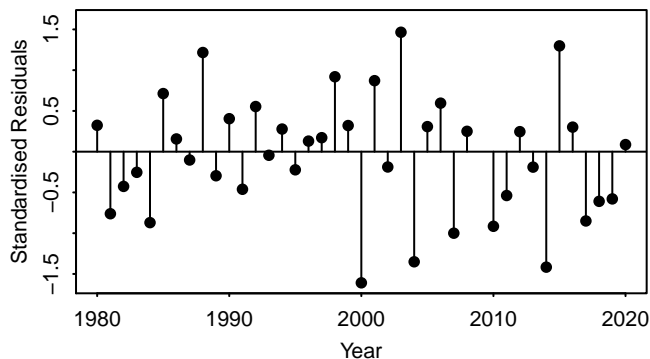
a) Observed and fitted values time series



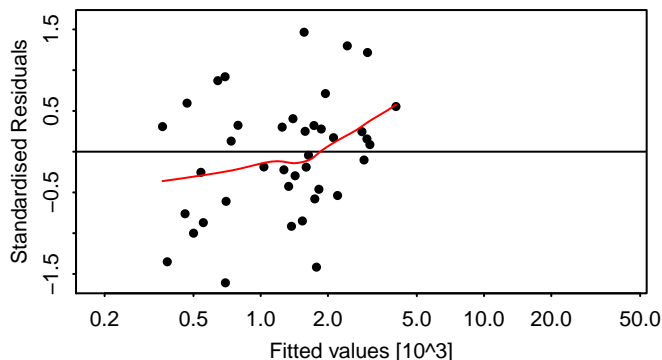
b) Observed vs fitted values



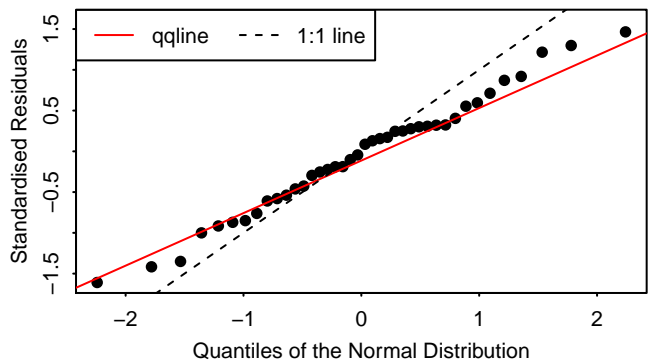
c) Standardised residuals over time



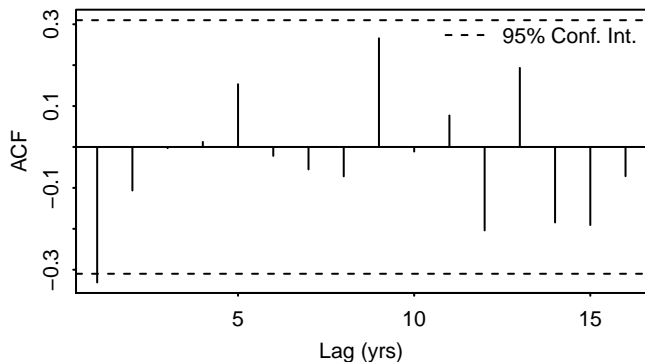
d) Tukey–Anscombe plot



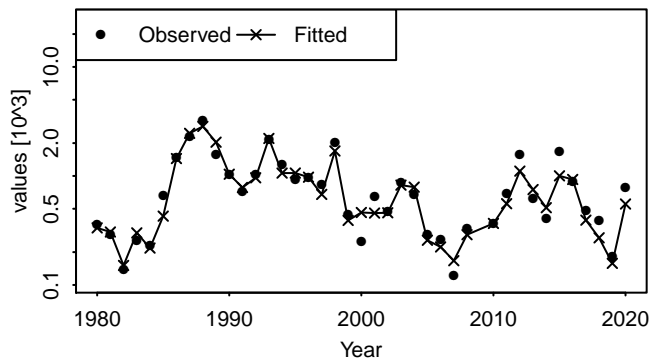
e) Normal Q–Q plot



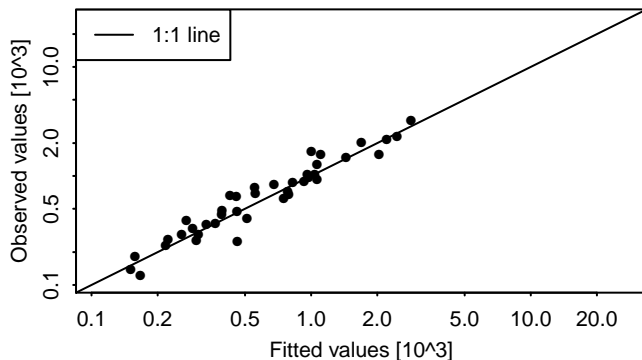
f) Autocorrelation of Residuals



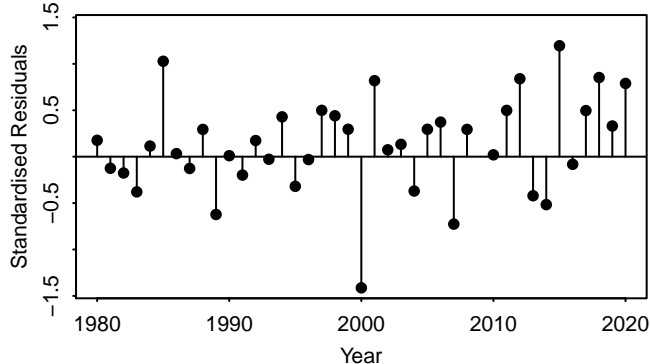
a) Observed and fitted values time series



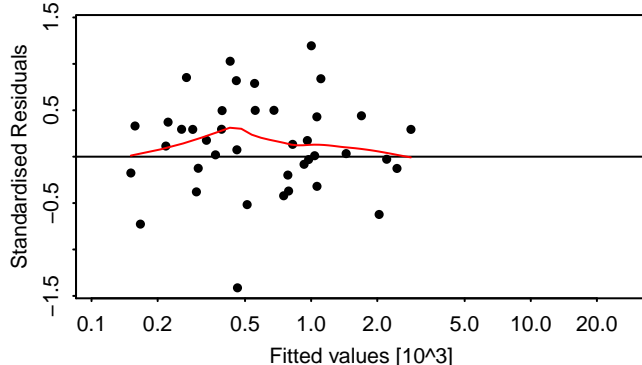
b) Observed vs fitted values



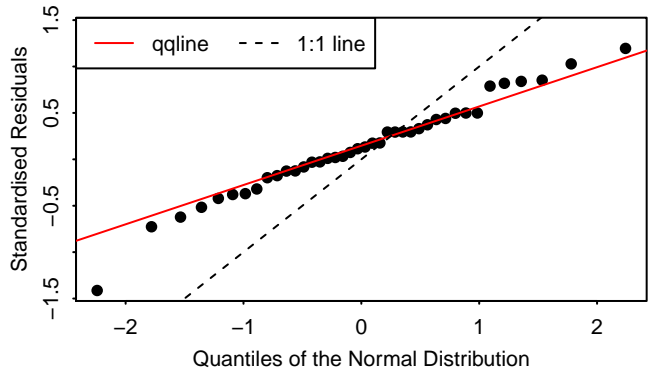
c) Standardised residuals over time



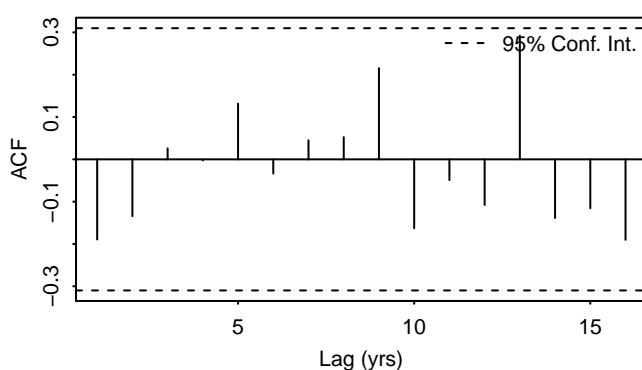
d) Tukey–Anscombe plot



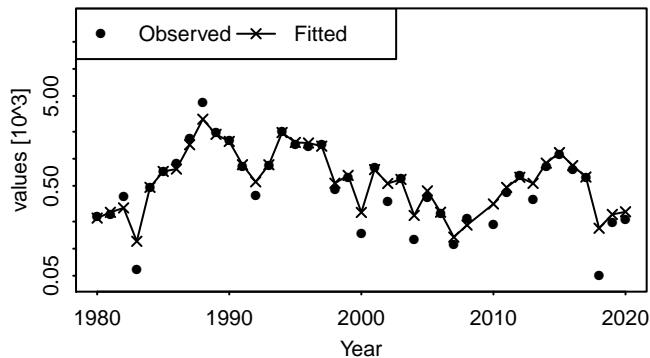
e) Normal Q–Q plot



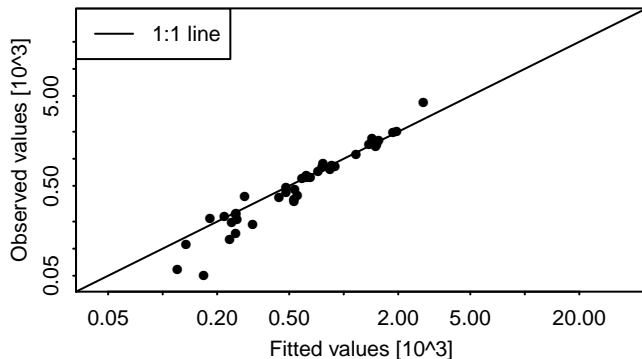
f) Autocorrelation of Residuals



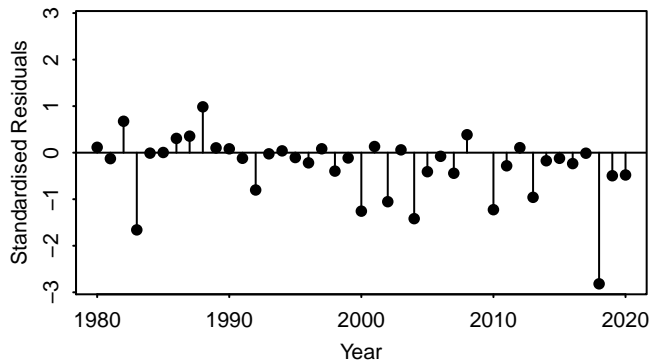
a) Observed and fitted values time series



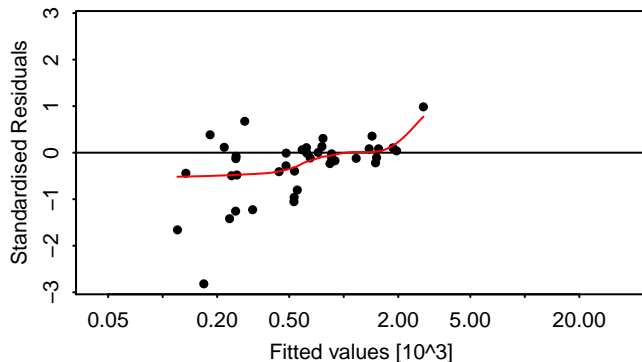
b) Observed vs fitted values



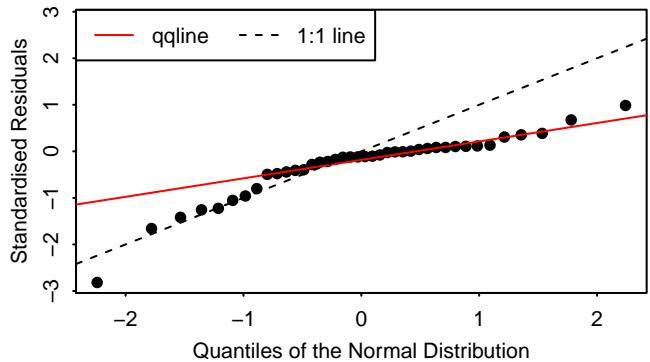
c) Standardised residuals over time



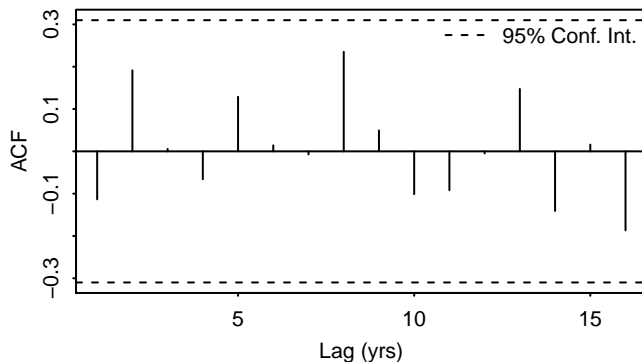
d) Tukey–Anscombe plot



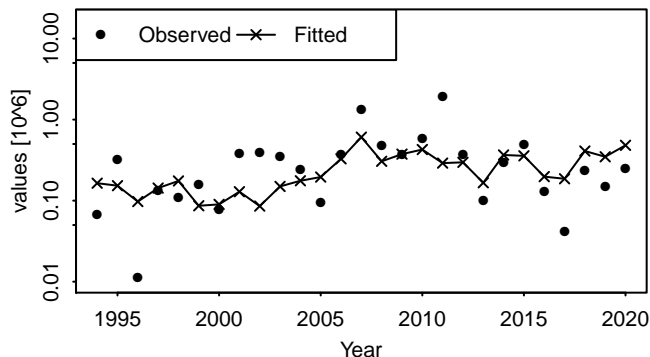
e) Normal Q–Q plot



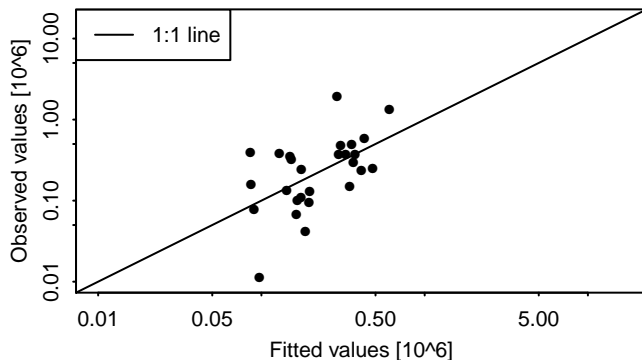
f) Autocorrelation of Residuals



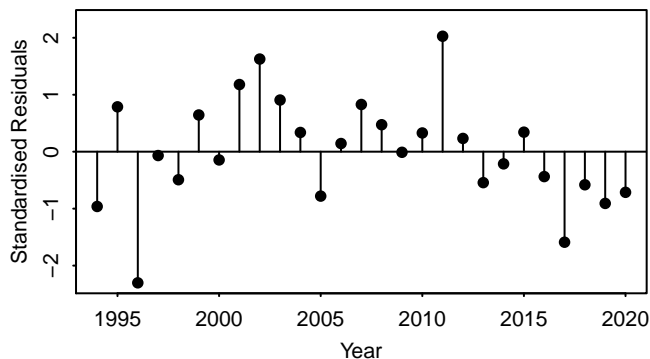
a) Observed and fitted values time series



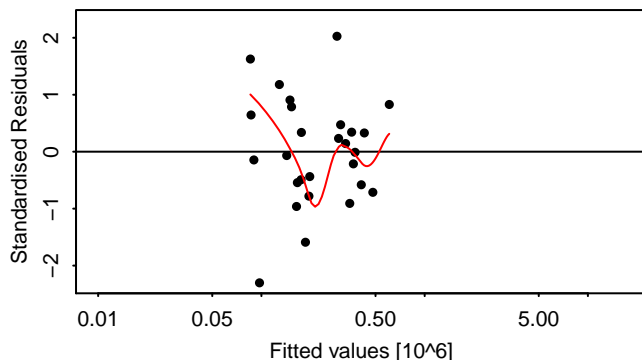
b) Observed vs fitted values



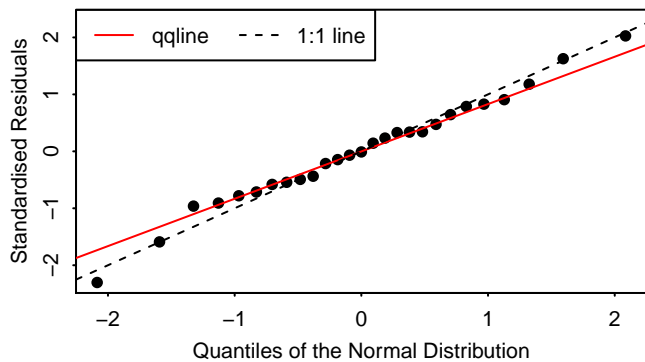
c) Standardised residuals over time



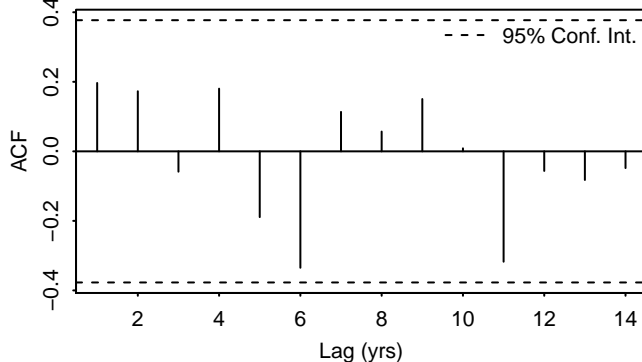
d) Tukey–Anscombe plot



e) Normal Q–Q plot

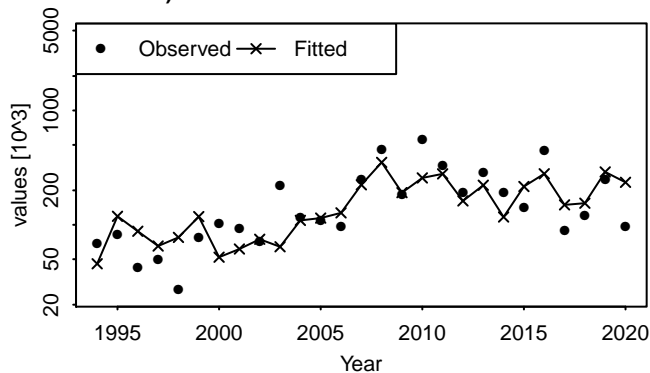


f) Autocorrelation of Residuals

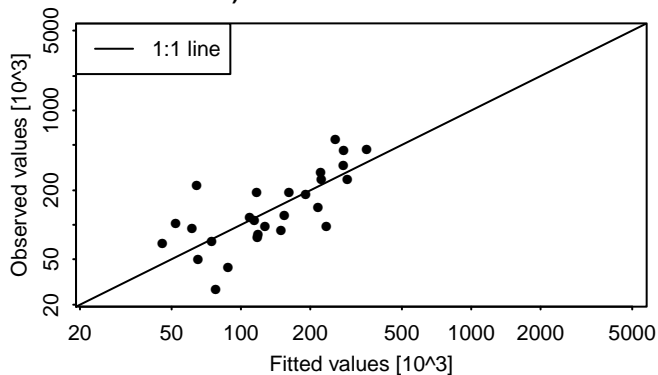


ISH_assessment 2021 Diagnostics – Fleet 2, age 2

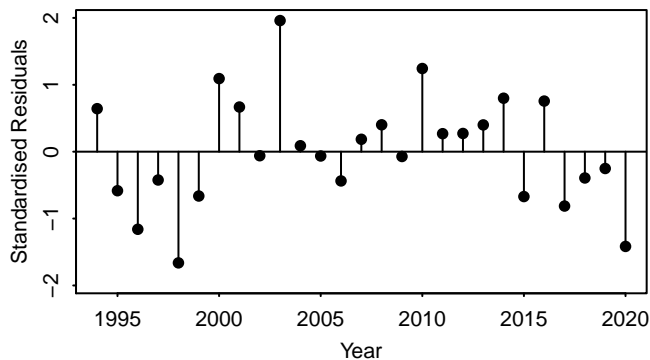
a) Observed and fitted values time series



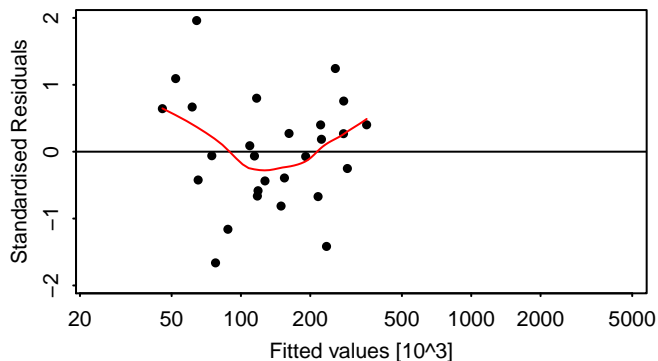
b) Observed vs fitted values



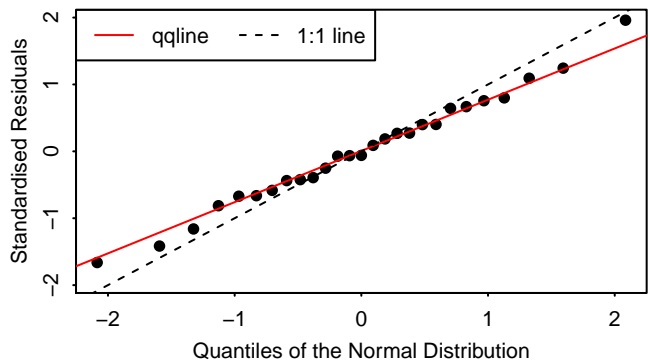
c) Standardised residuals over time



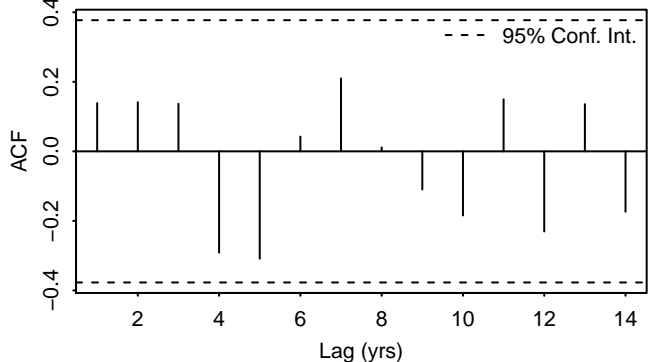
d) Tukey–Anscombe plot



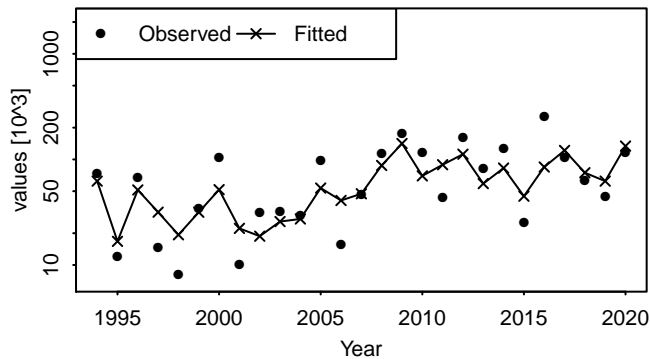
e) Normal Q–Q plot



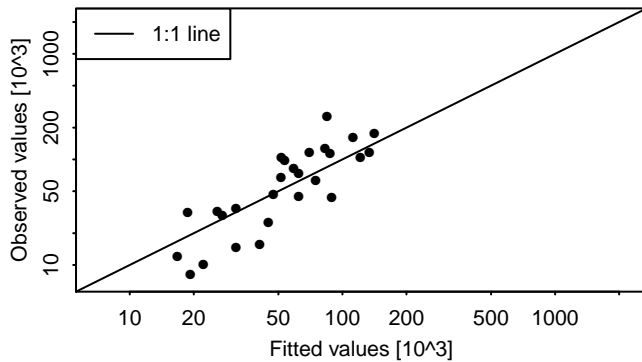
f) Autocorrelation of Residuals



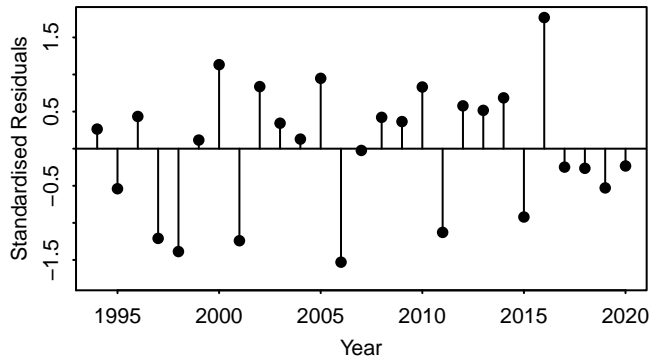
a) Observed and fitted values time series



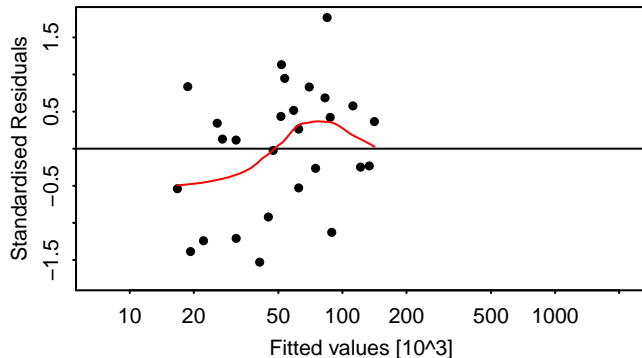
b) Observed vs fitted values



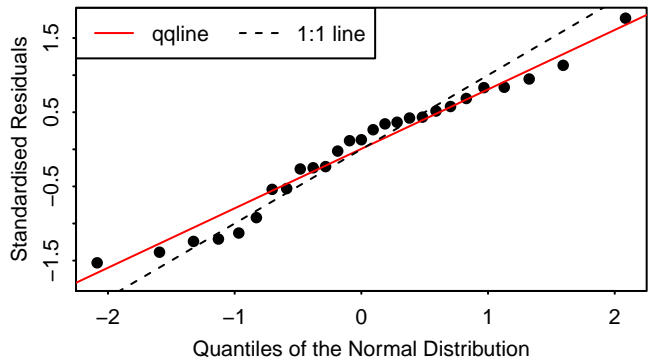
c) Standardised residuals over time



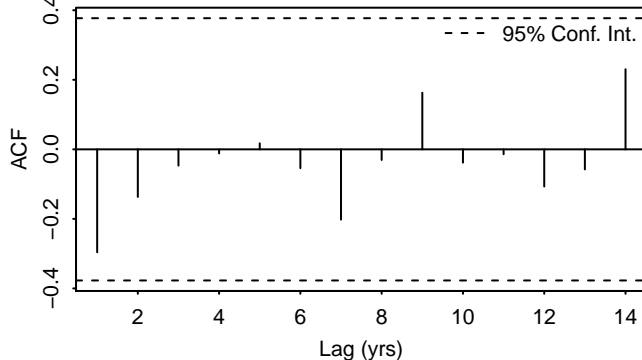
d) Tukey–Anscombe plot



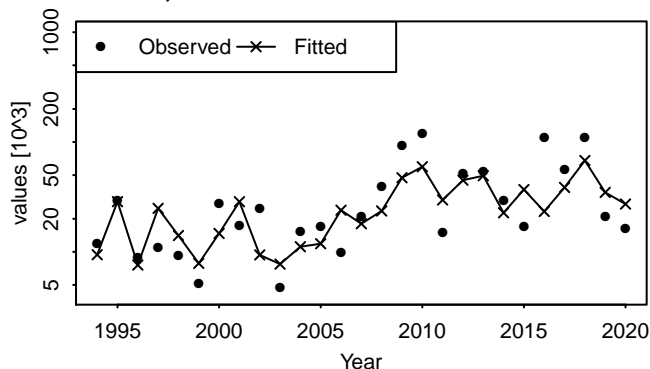
e) Normal Q–Q plot



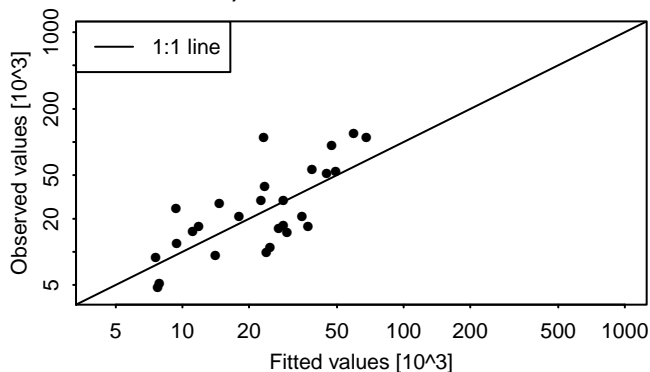
f) Autocorrelation of Residuals



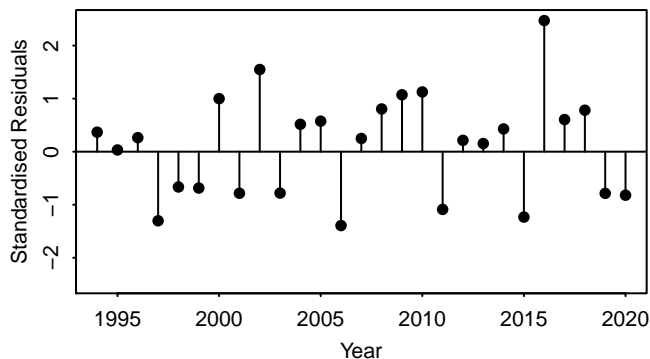
a) Observed and fitted values time series



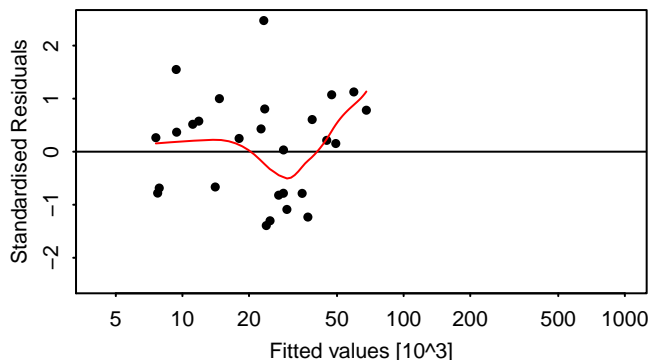
b) Observed vs fitted values



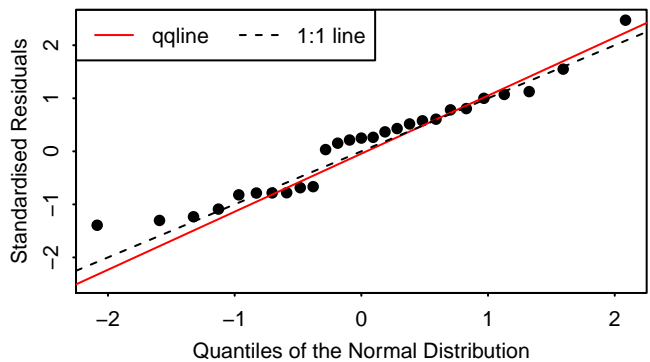
c) Standardised residuals over time



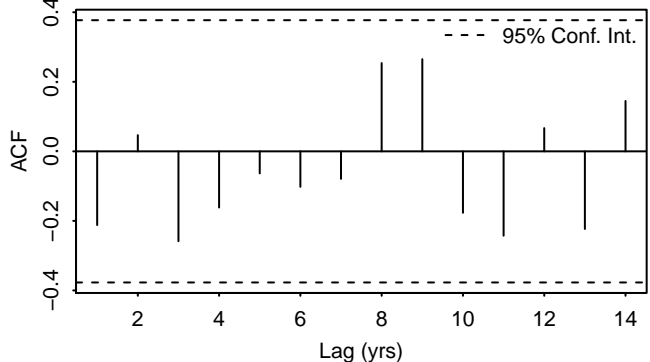
d) Tukey–Anscombe plot



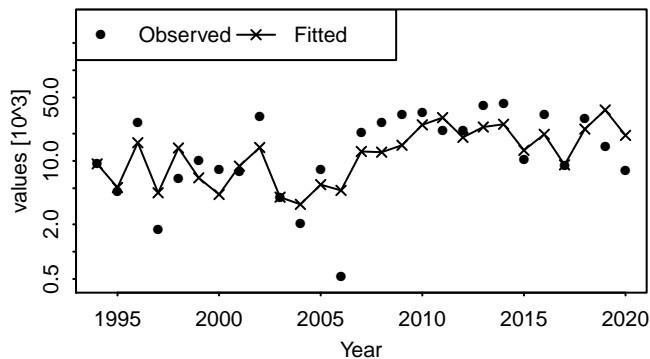
e) Normal Q–Q plot



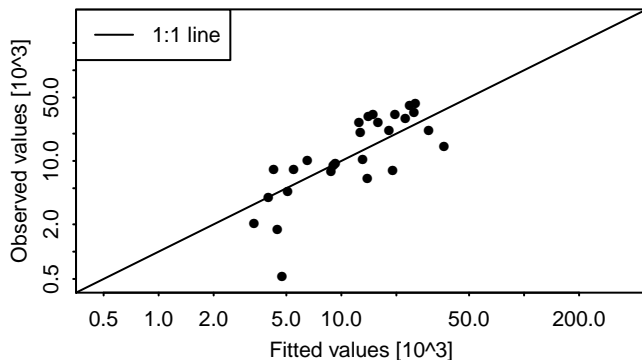
f) Autocorrelation of Residuals



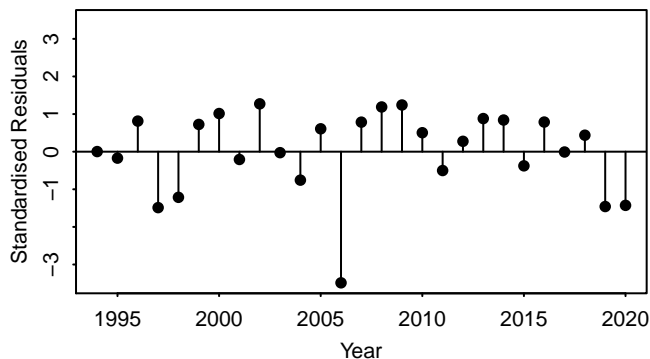
a) Observed and fitted values time series



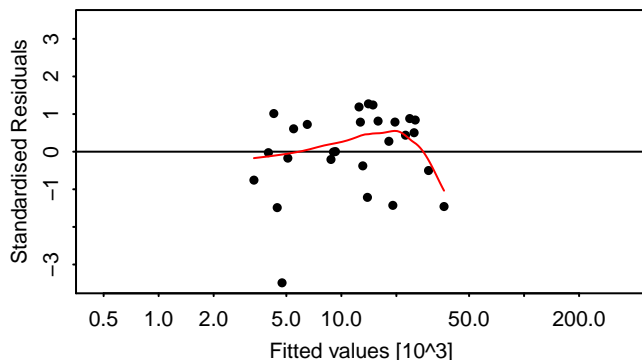
b) Observed vs fitted values



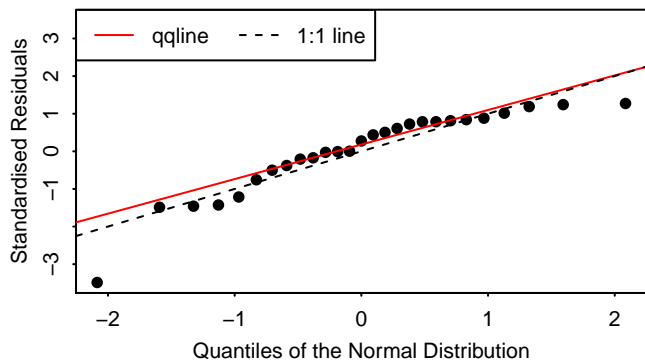
c) Standardised residuals over time



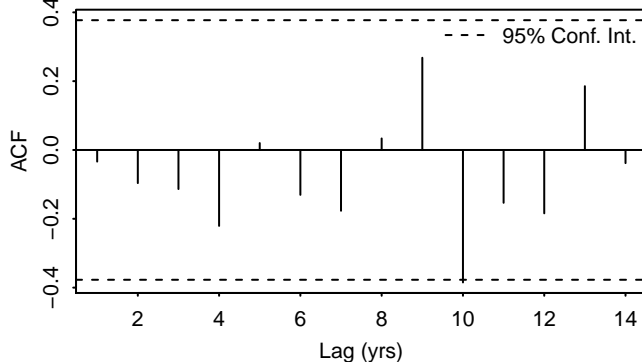
d) Tukey–Anscombe plot



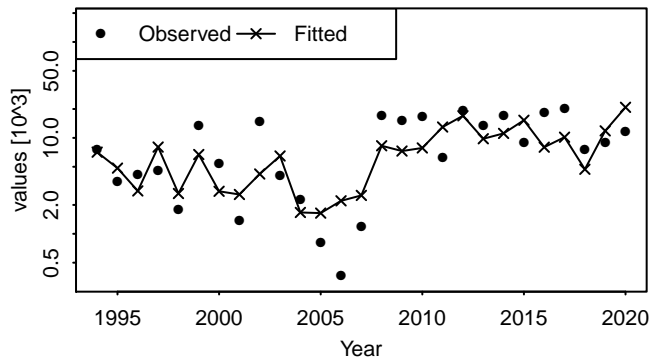
e) Normal Q–Q plot



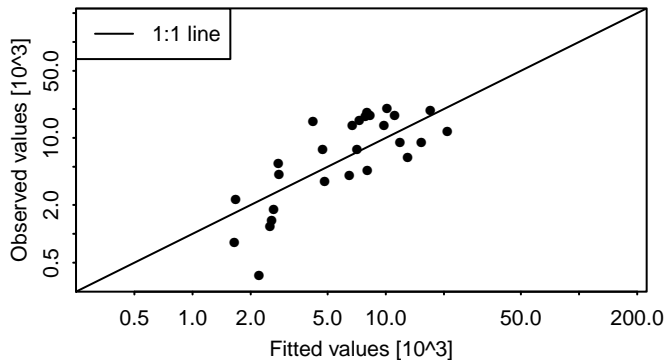
f) Autocorrelation of Residuals



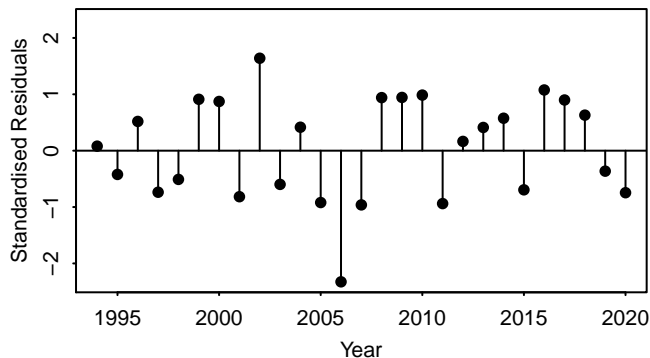
a) Observed and fitted values time series



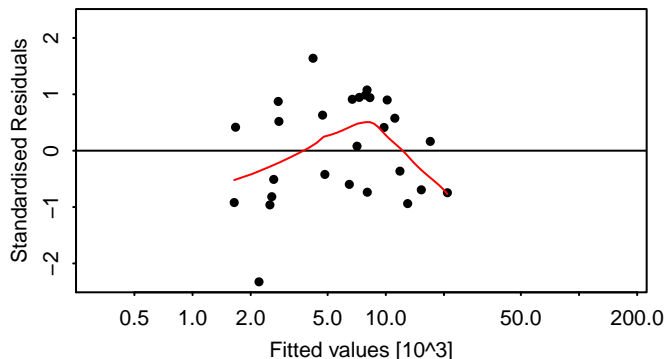
b) Observed vs fitted values



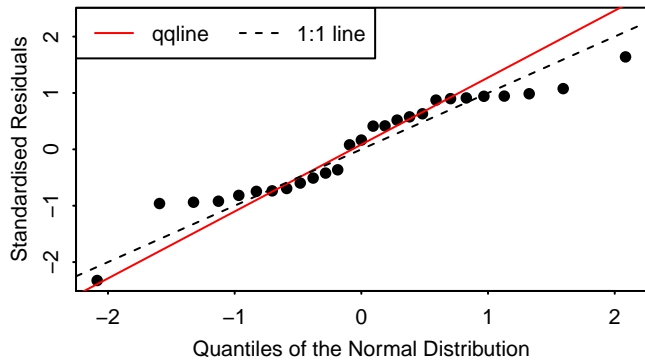
c) Standardised residuals over time



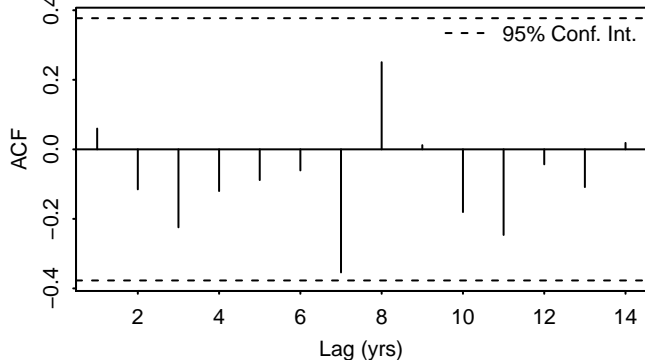
d) Tukey–Anscombe plot



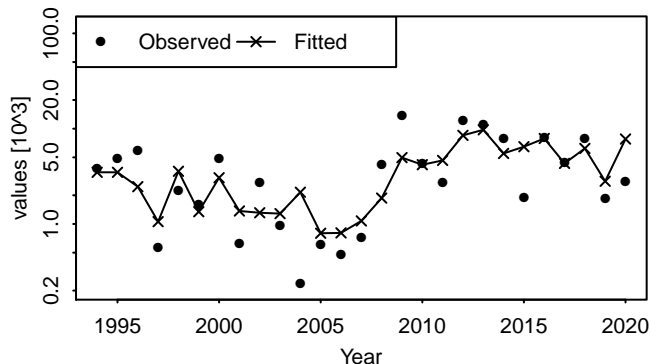
e) Normal Q–Q plot



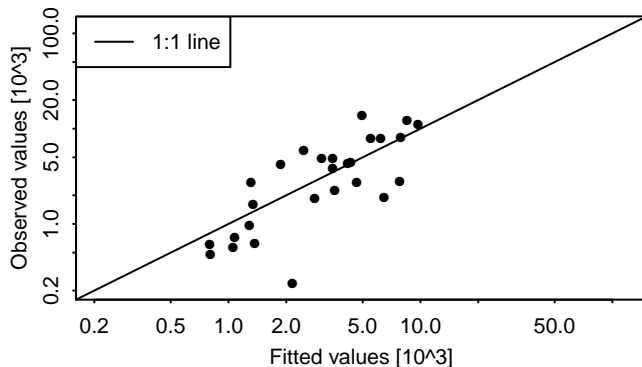
f) Autocorrelation of Residuals



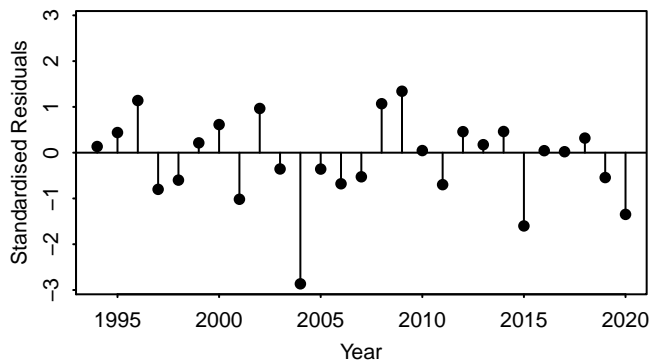
a) Observed and fitted values time series



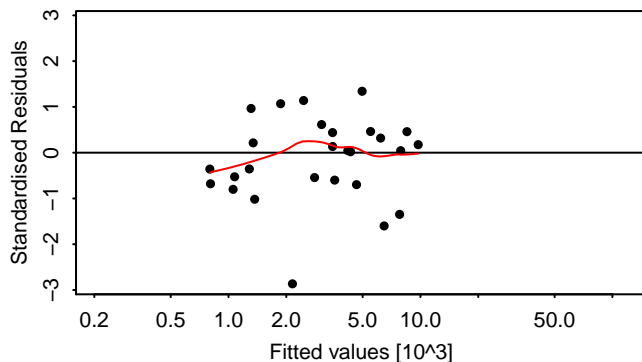
b) Observed vs fitted values



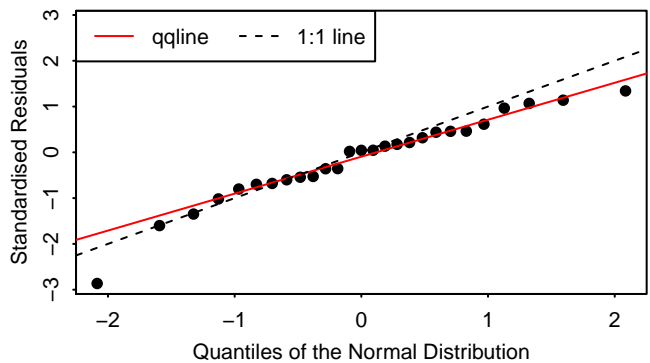
c) Standardised residuals over time



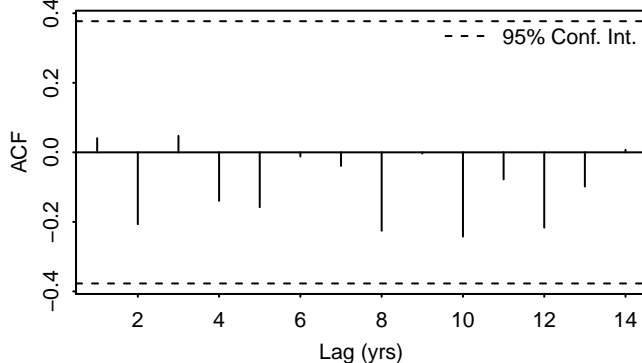
d) Tukey–Anscombe plot



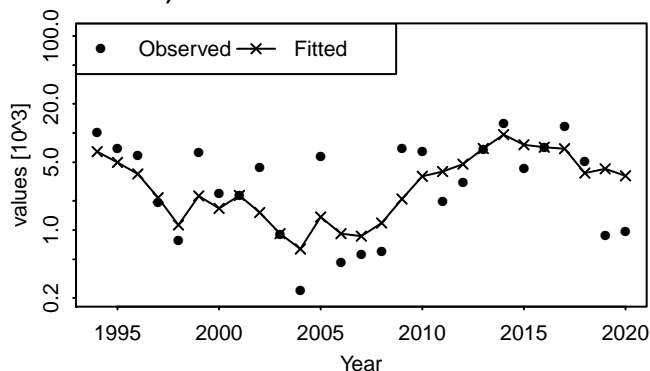
e) Normal Q–Q plot



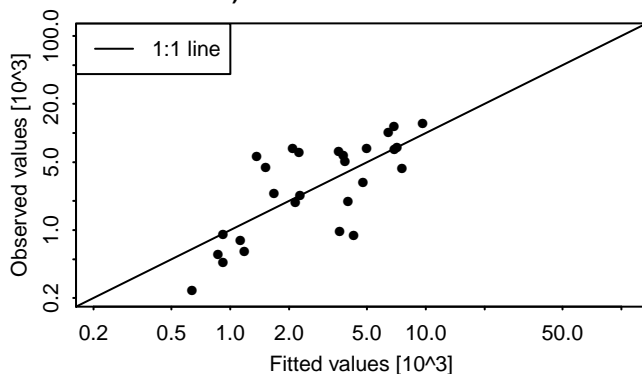
f) Autocorrelation of Residuals



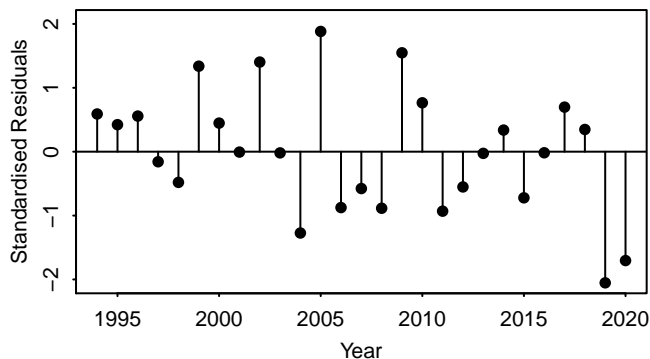
a) Observed and fitted values time series



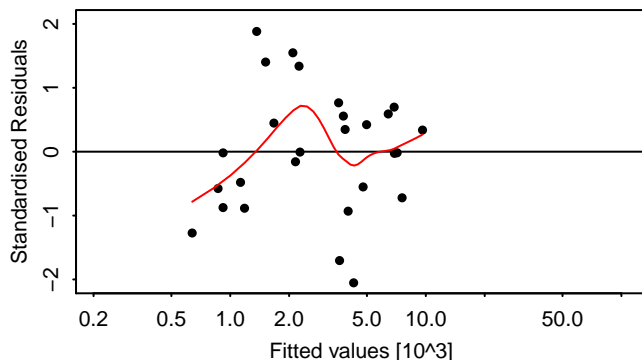
b) Observed vs fitted values



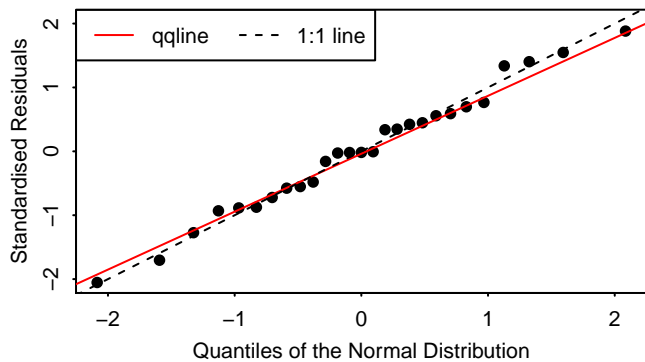
c) Standardised residuals over time



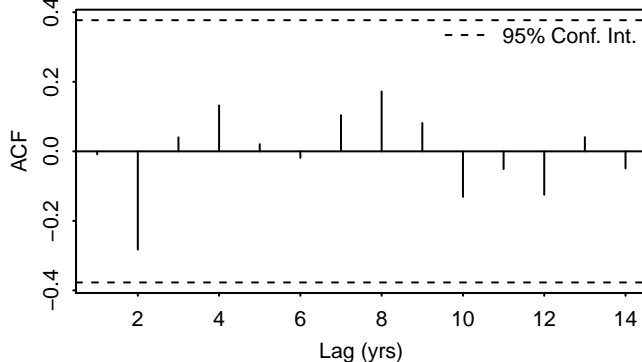
d) Tukey–Anscombe plot



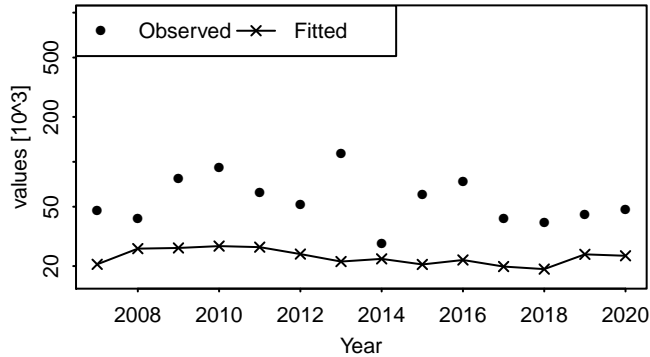
e) Normal Q–Q plot



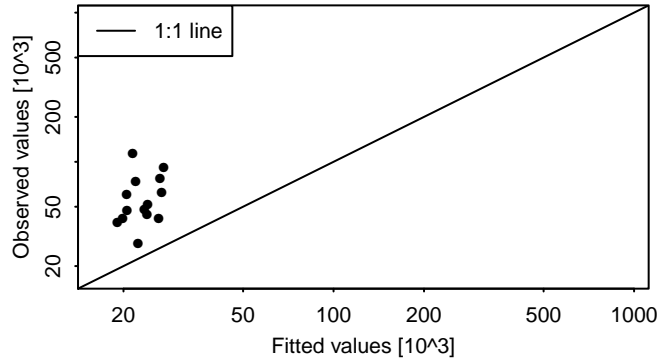
f) Autocorrelation of Residuals



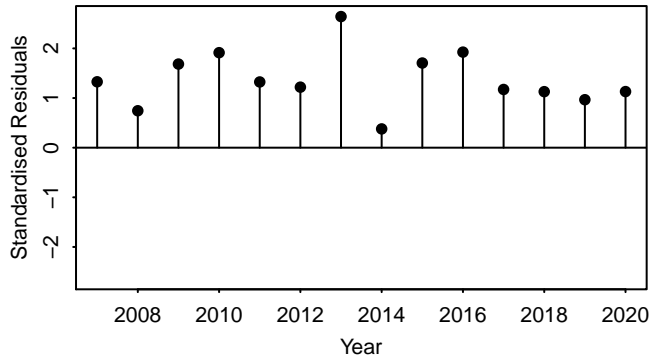
a) Observed and fitted values time series



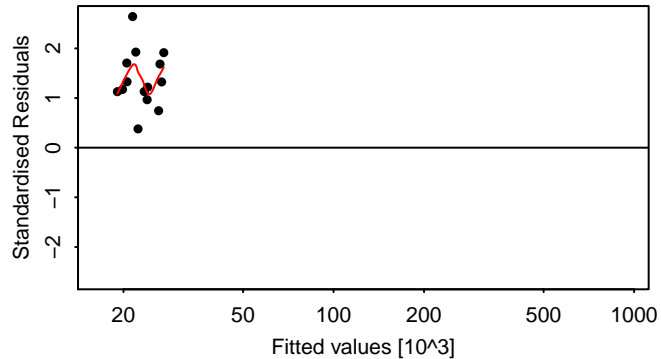
b) Observed vs fitted values



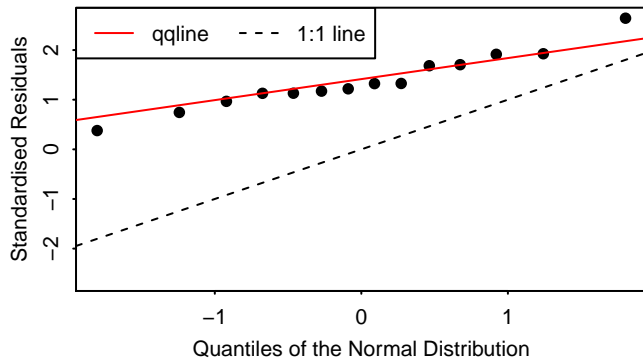
c) Standardised residuals over time



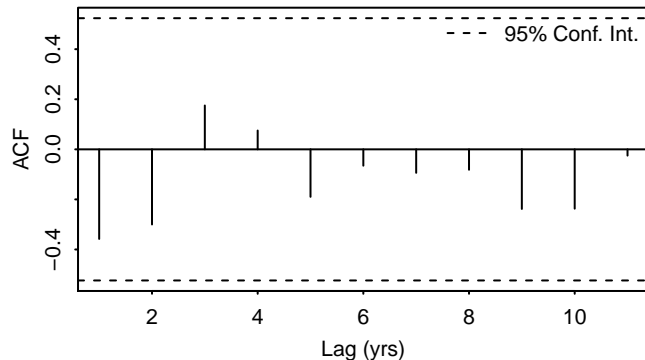
d) Tukey–Anscombe plot



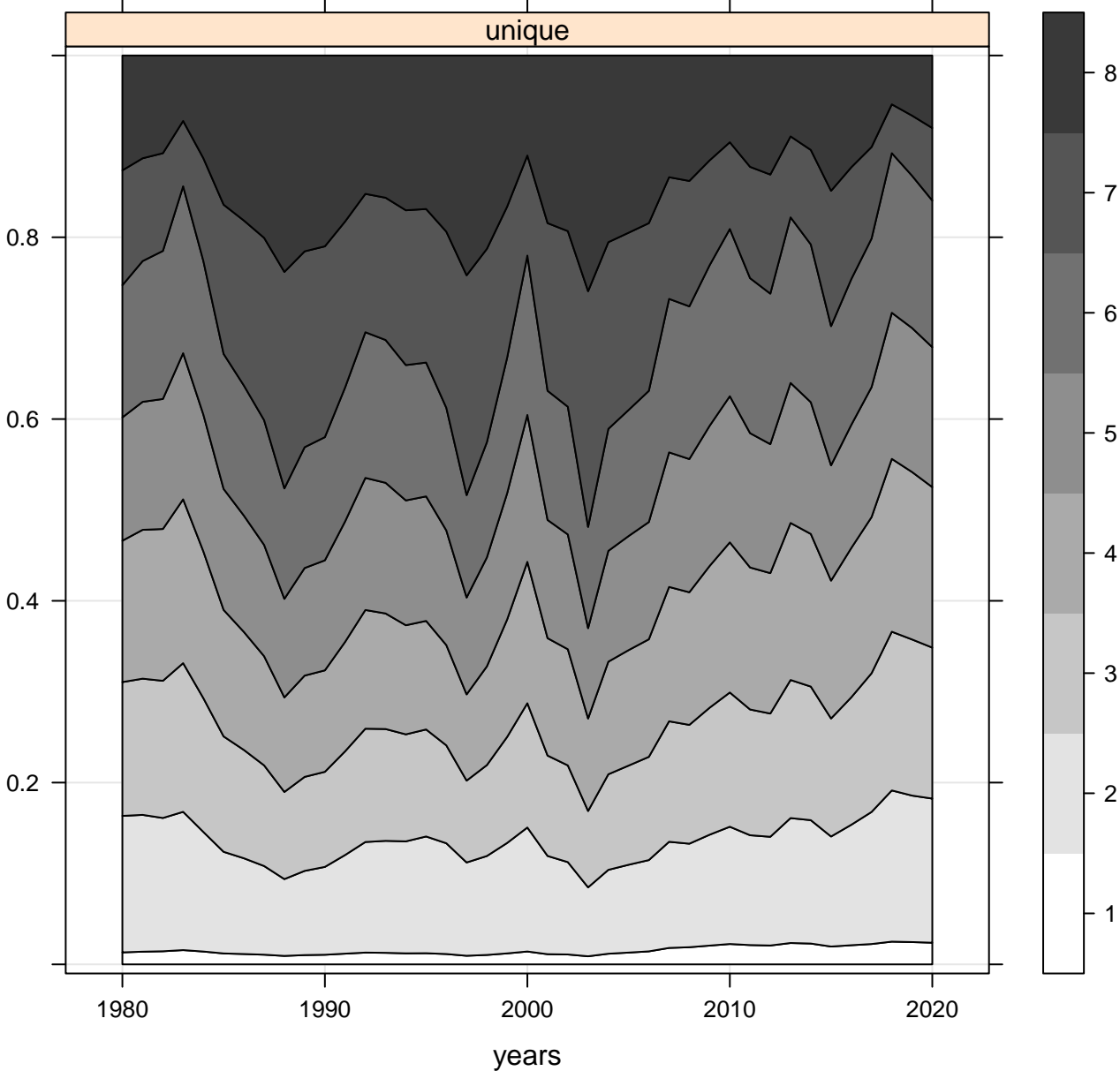
e) Normal Q–Q plot



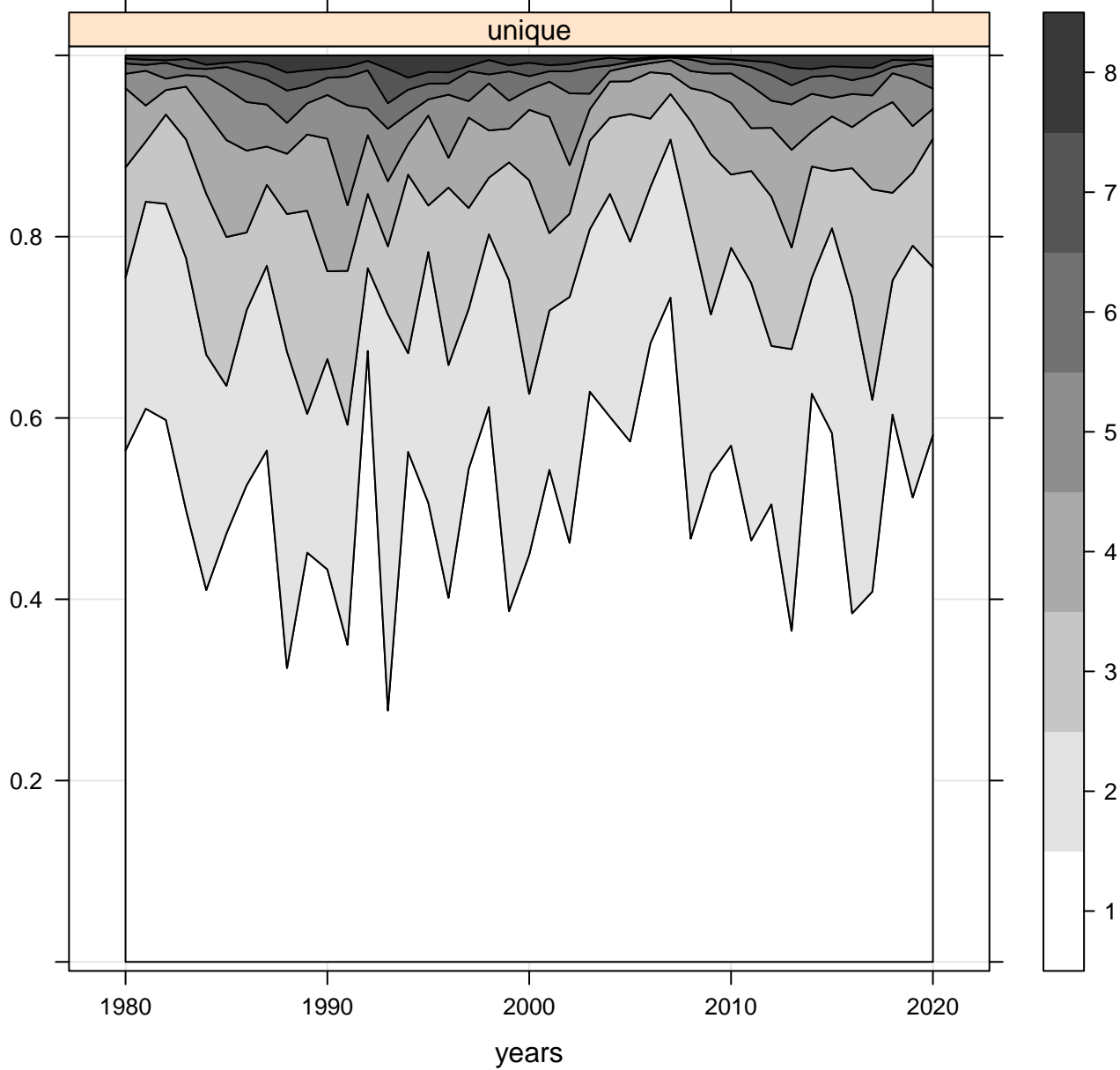
f) Autocorrelation of Residuals



Proportion of harvest pressure at age



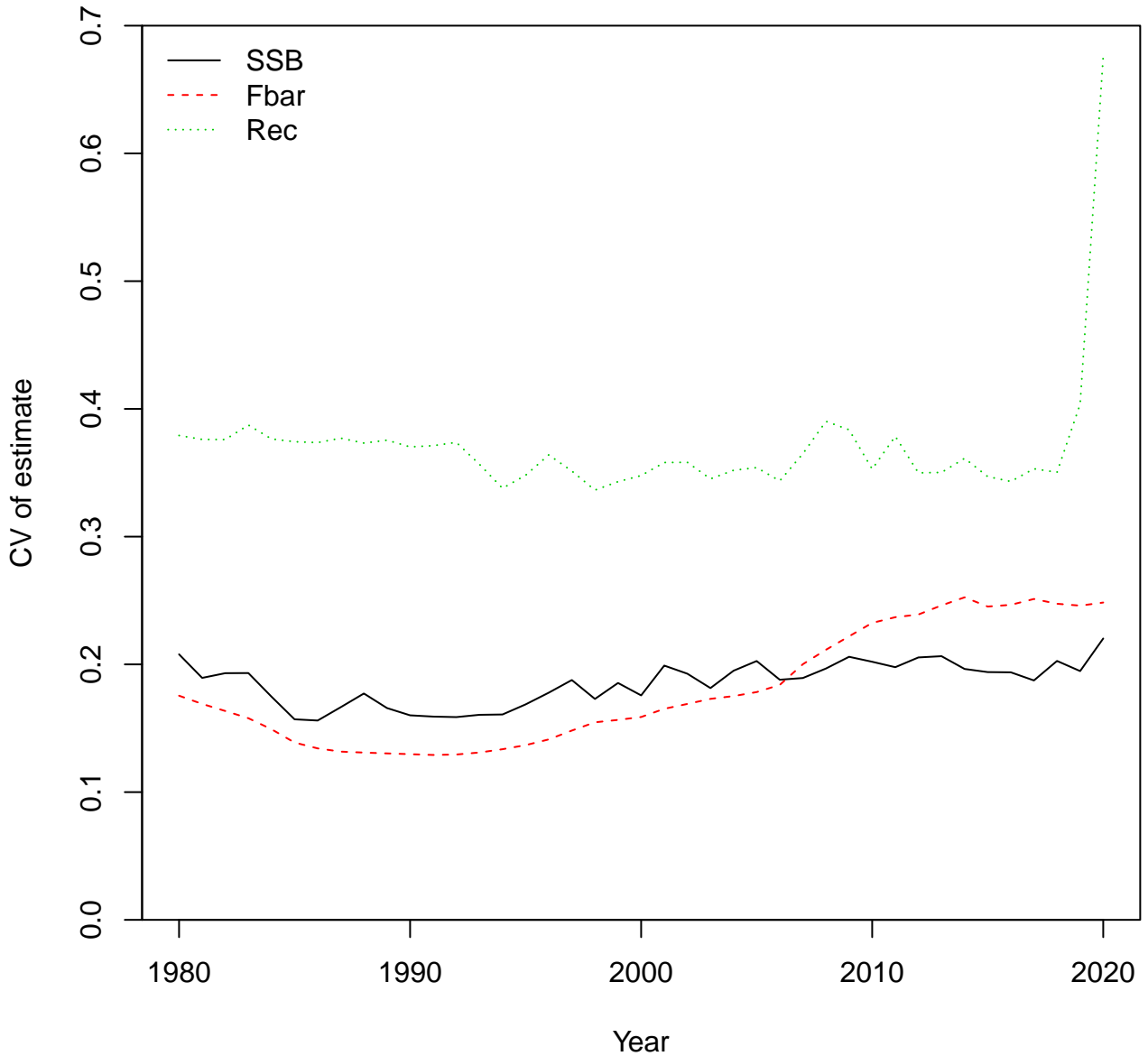
Proportion of Stock numbers at age



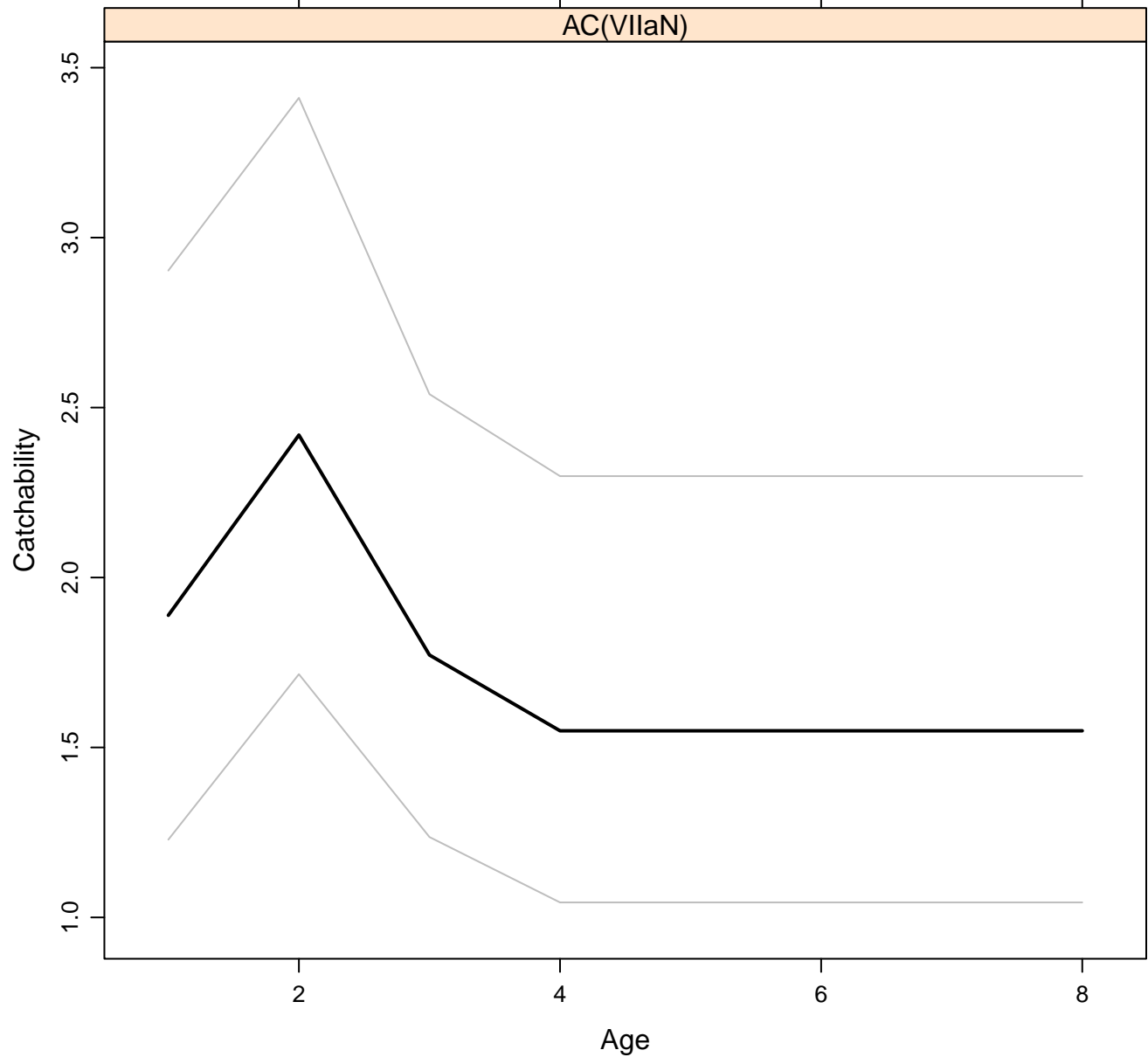
ISH_assessment 2021



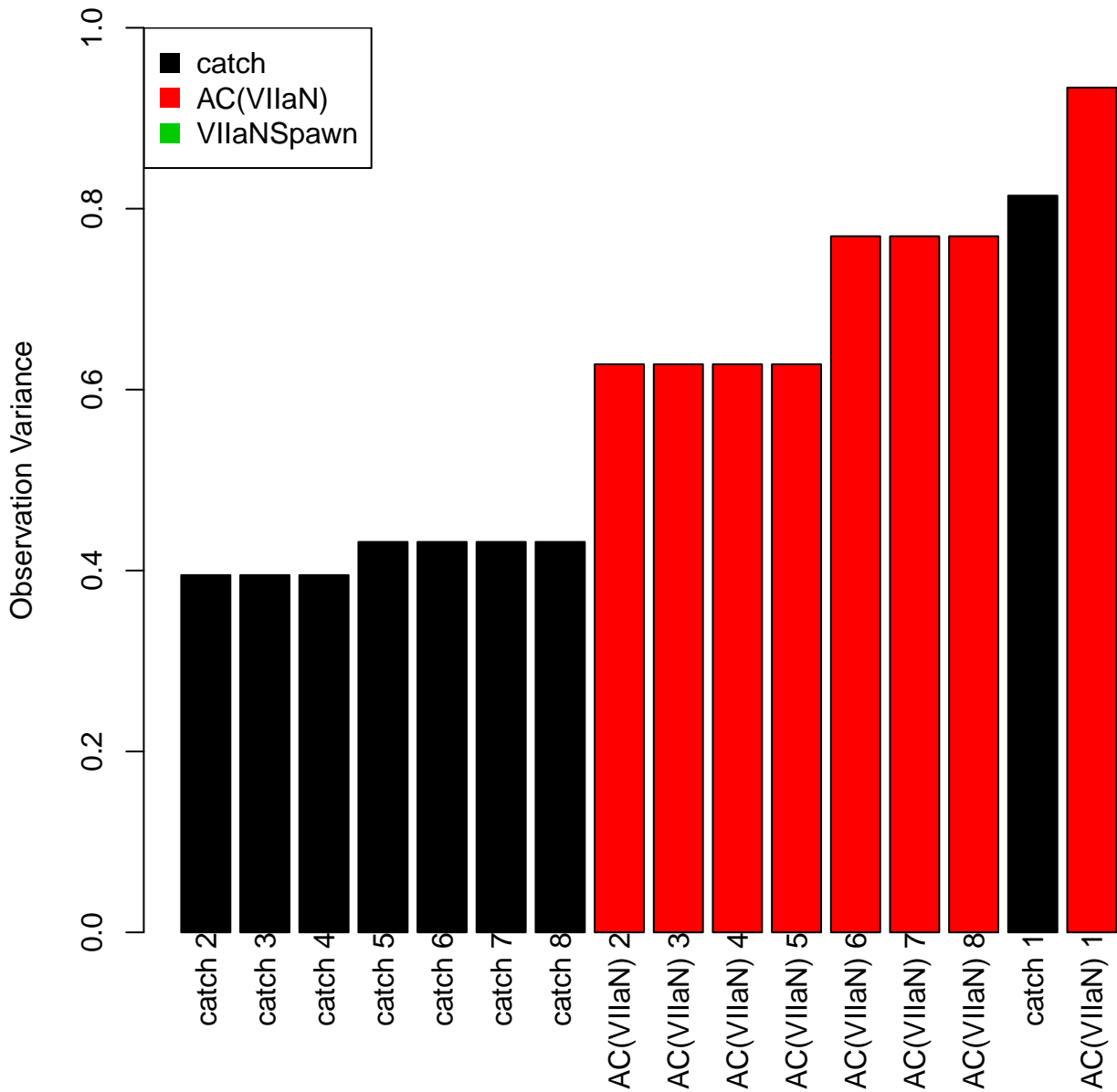
Uncertainties of key parameters



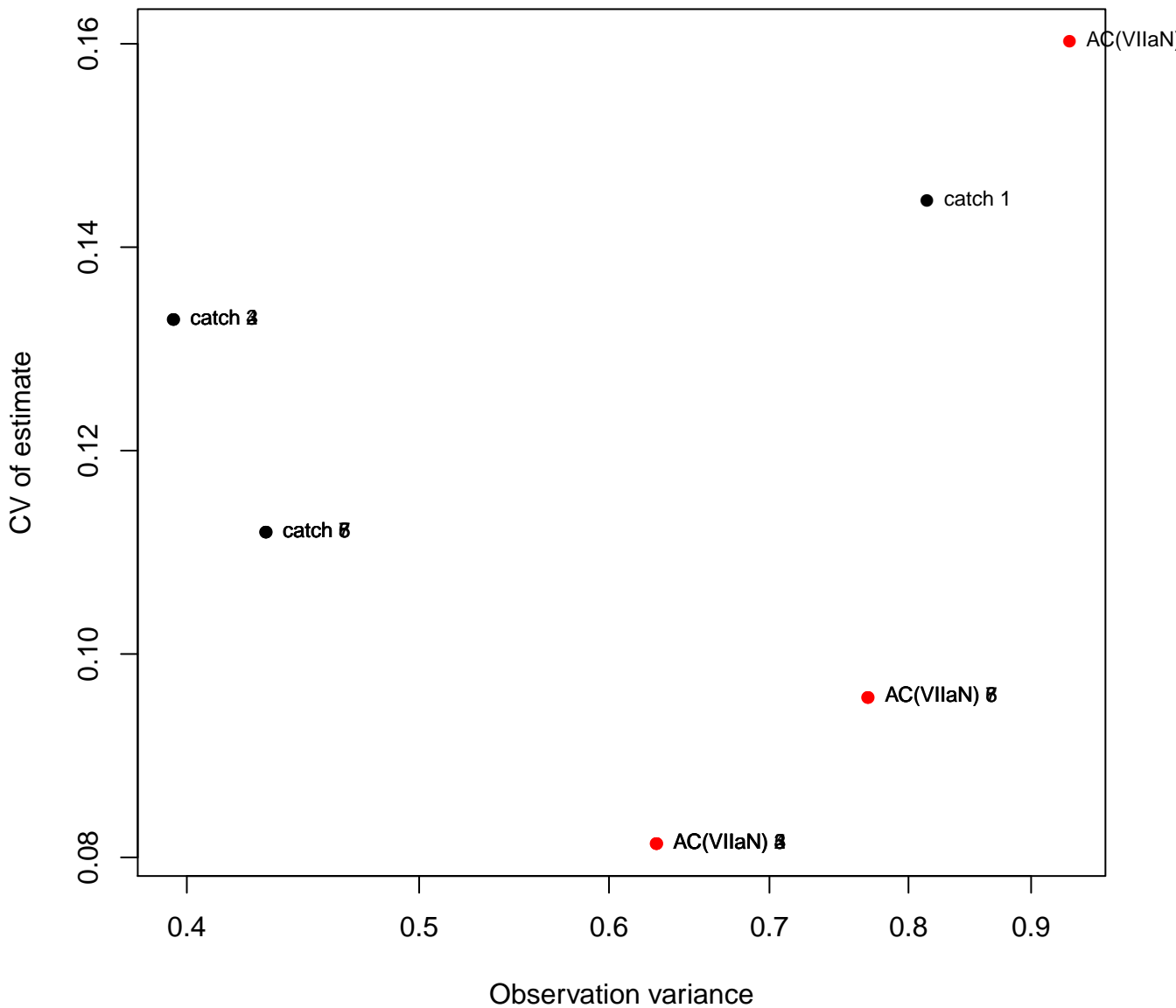
Survey catchability parameters



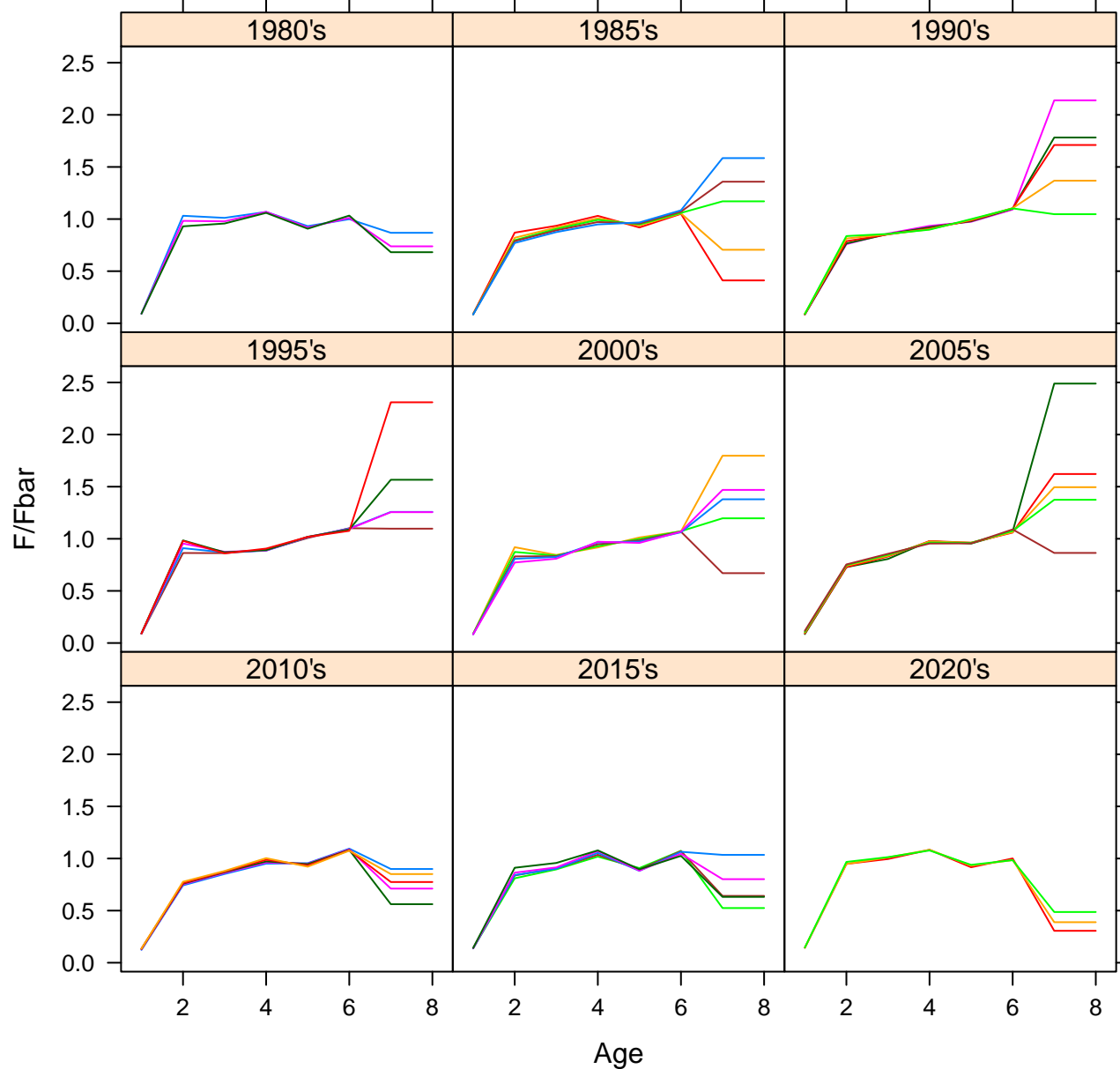
Observation variances by data source



Observation variance vs uncertainty



Selectivity of the Fishery by Pentad



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