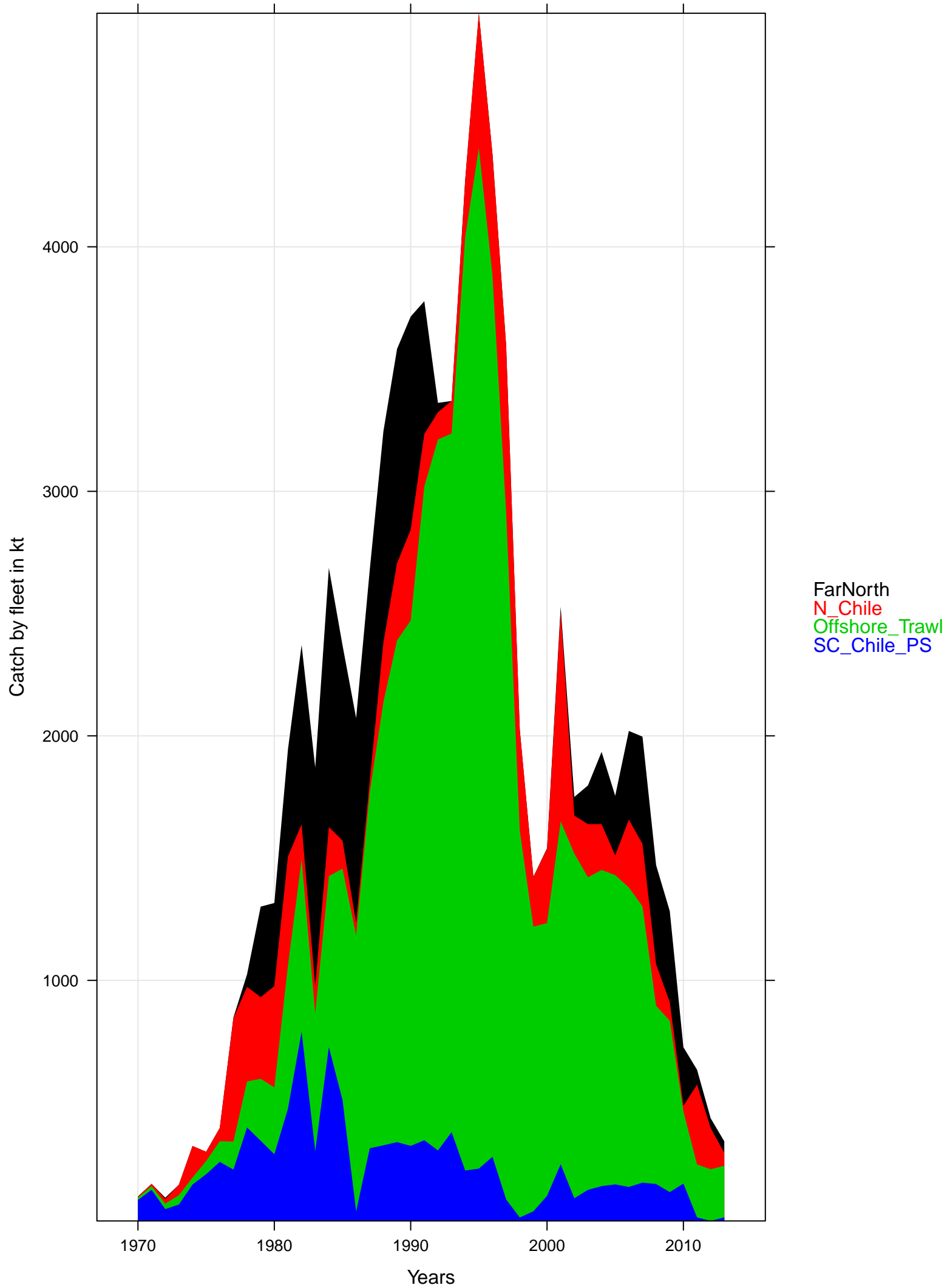


Fit of catch data

Total catch



Total catch by fleet

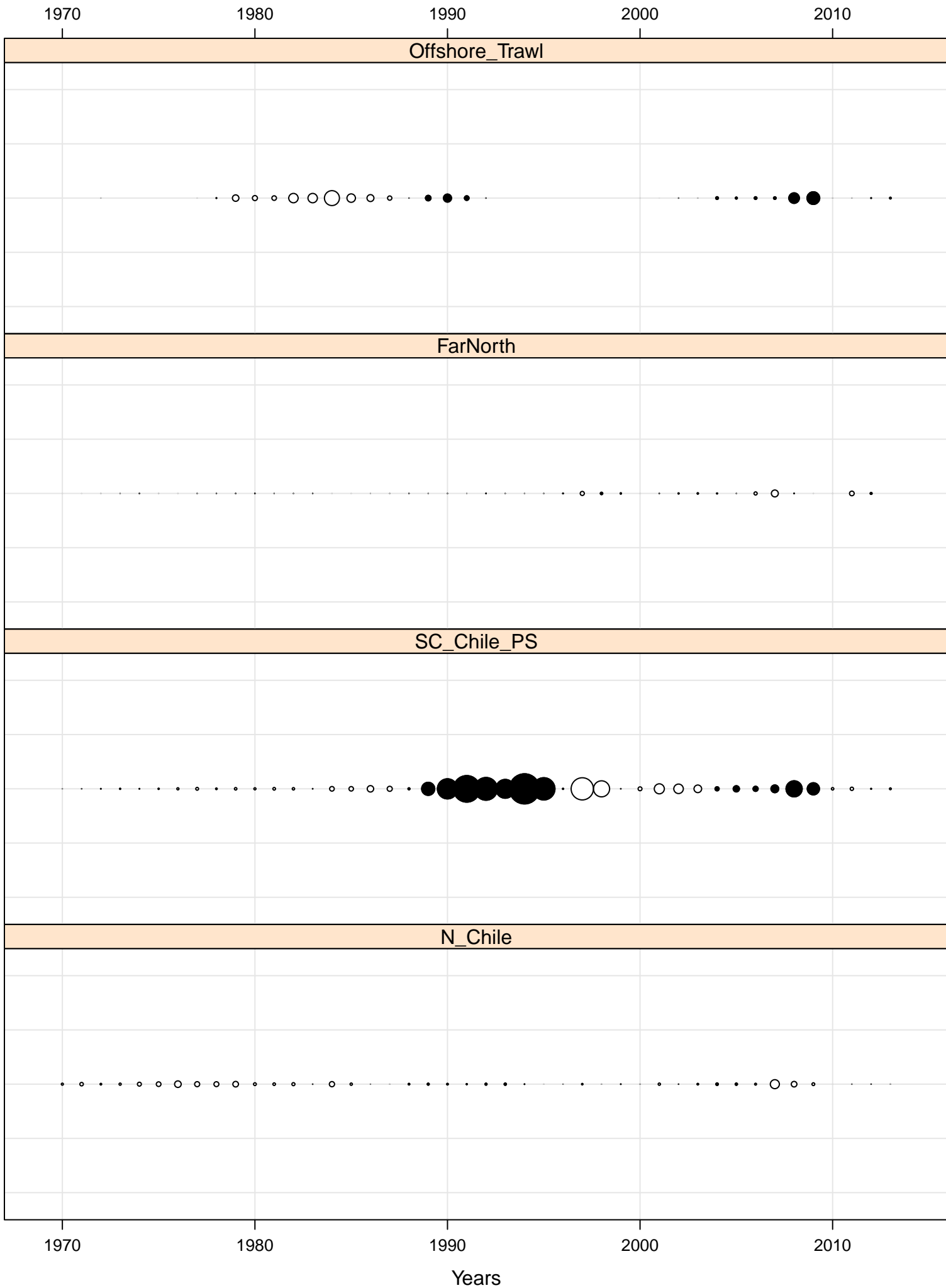


Catch residuals by fleet

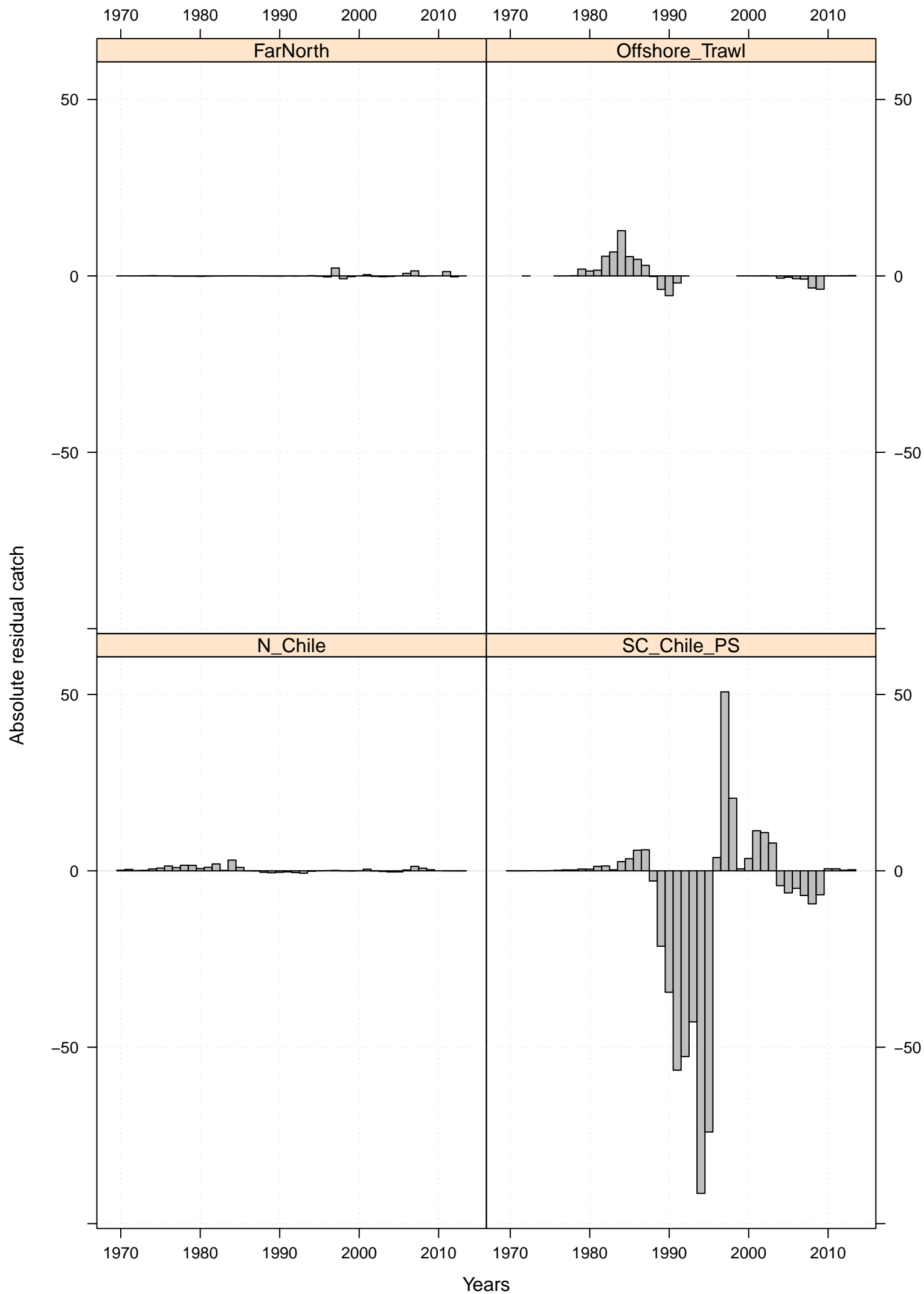
-0.02
-0.01
0



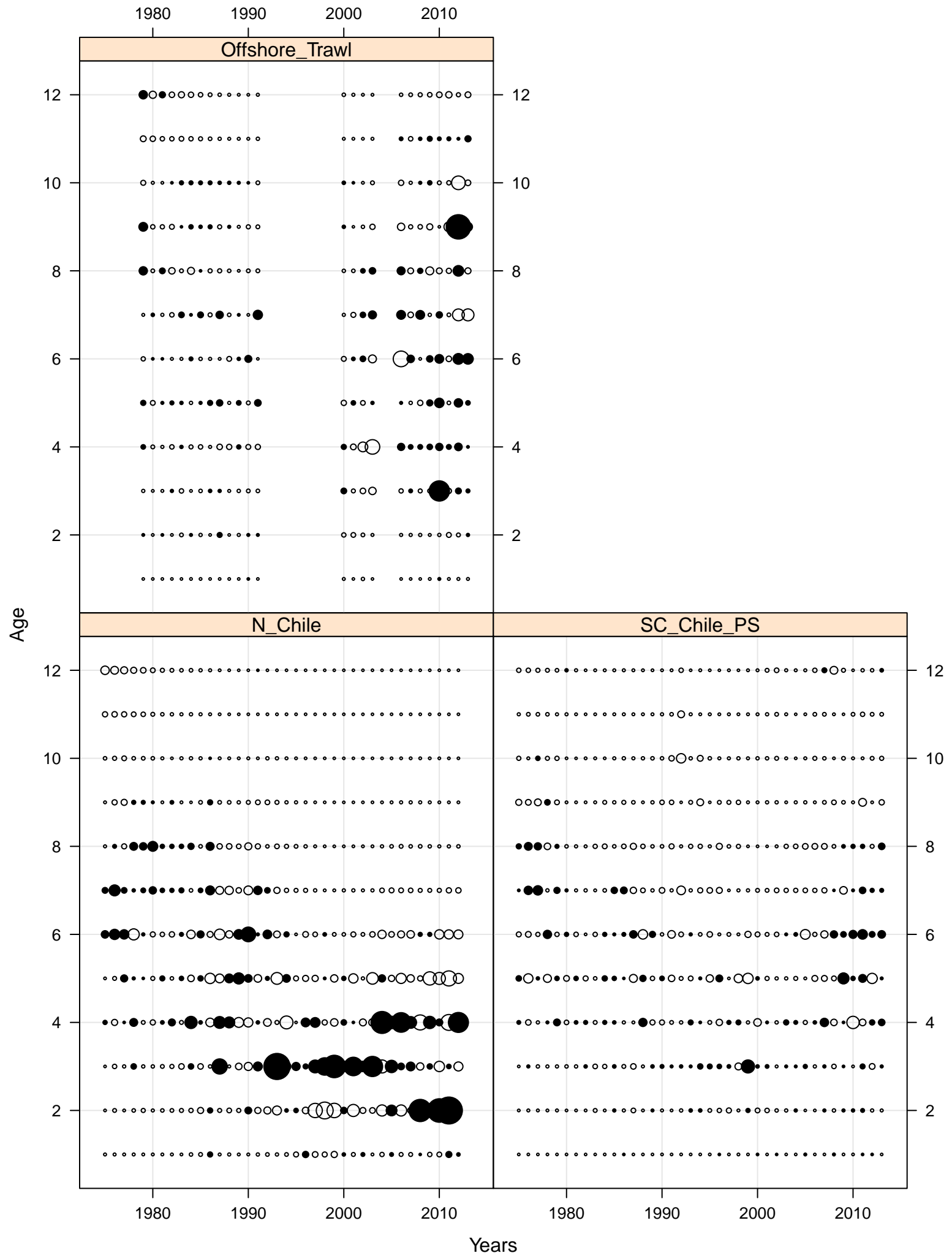
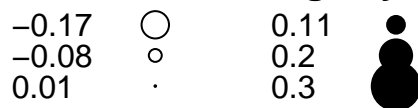
0.01
0.02
0.02



Absolute residual catch by fleet



Residuals catch-at-age by fleet



Age fits N_Chile

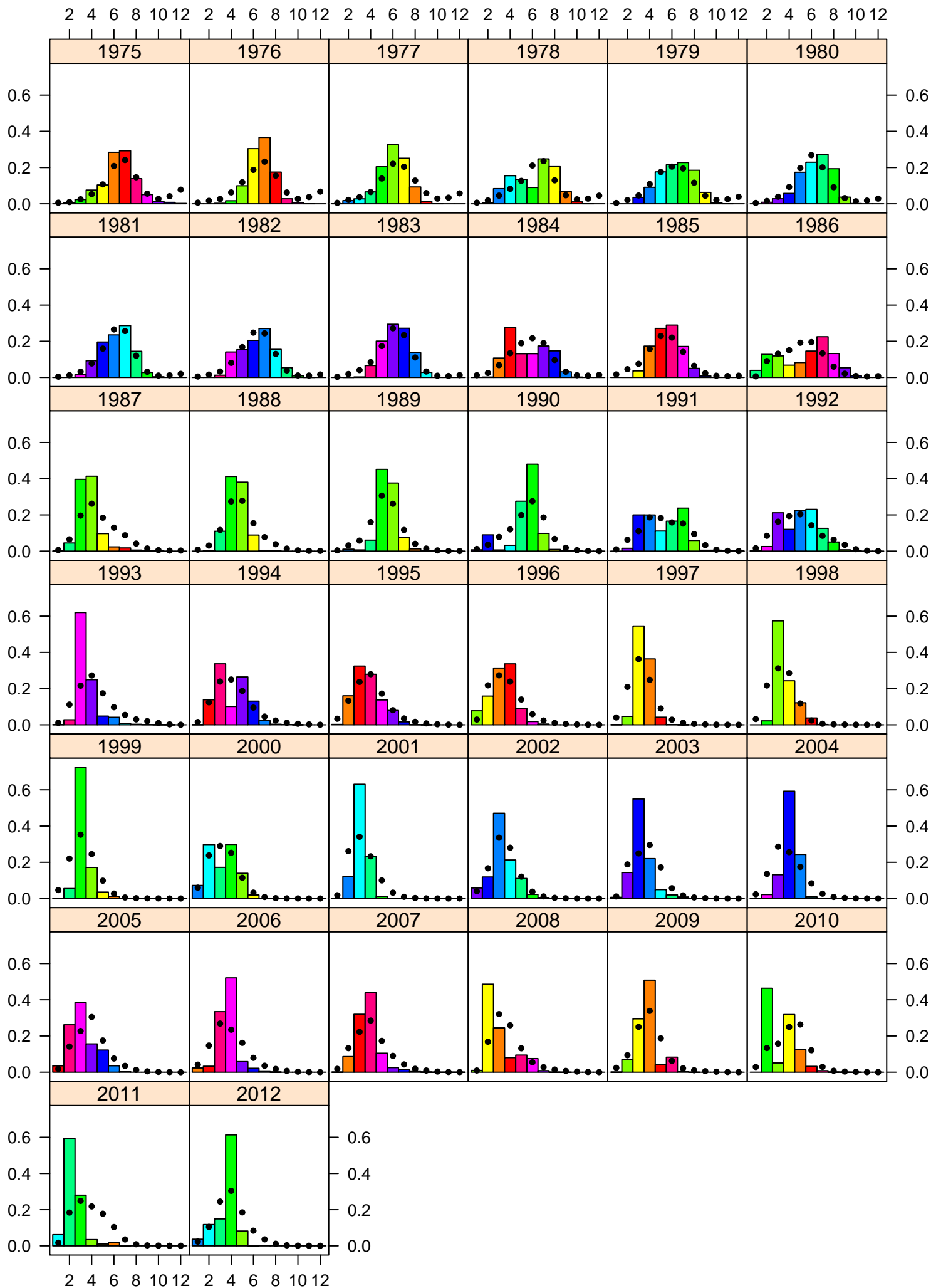
Observed



Predicted



Proportion at age



Age

Age fits SC_Chile_PS

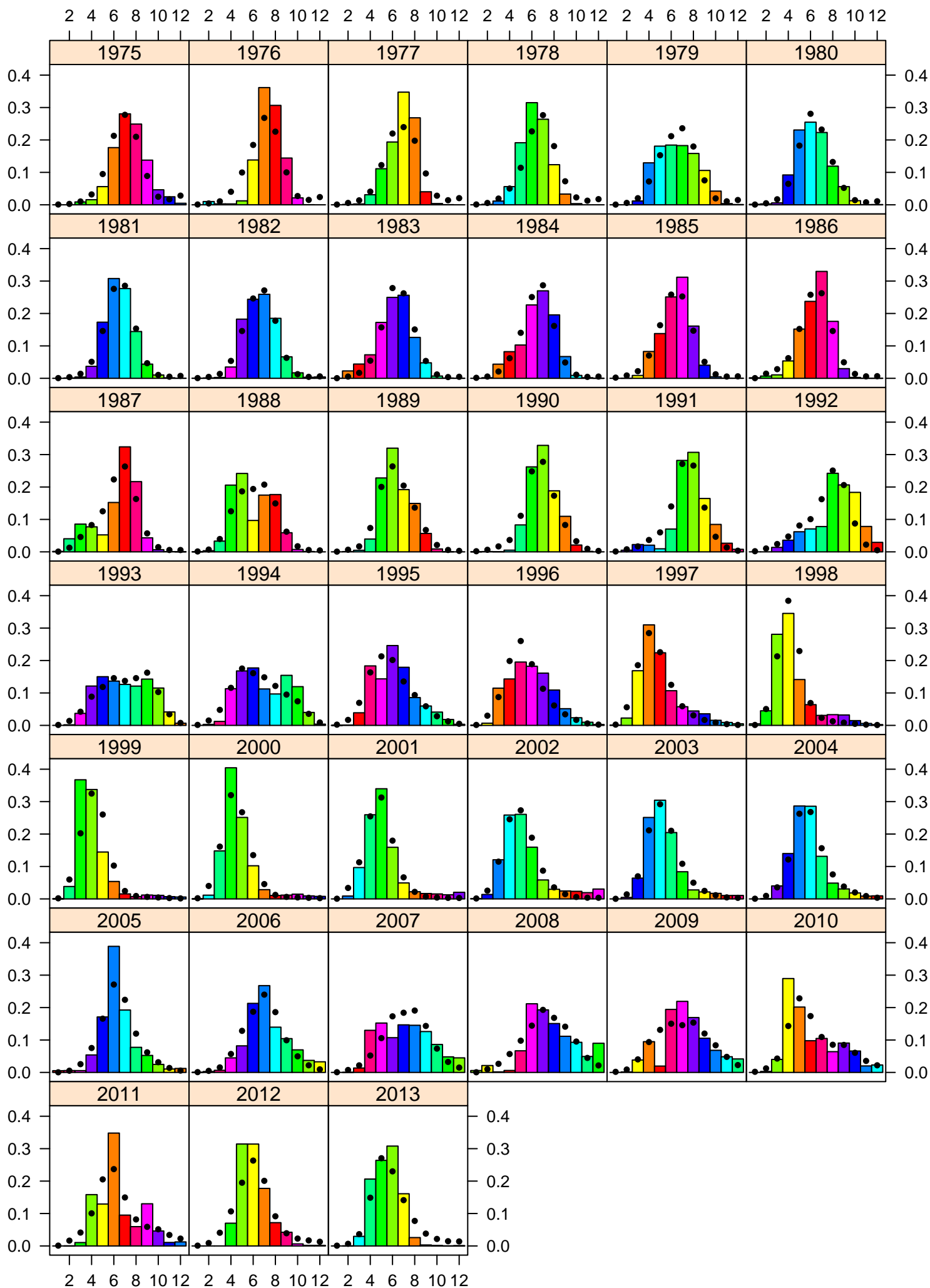
Observed



Predicted



Proportion at age



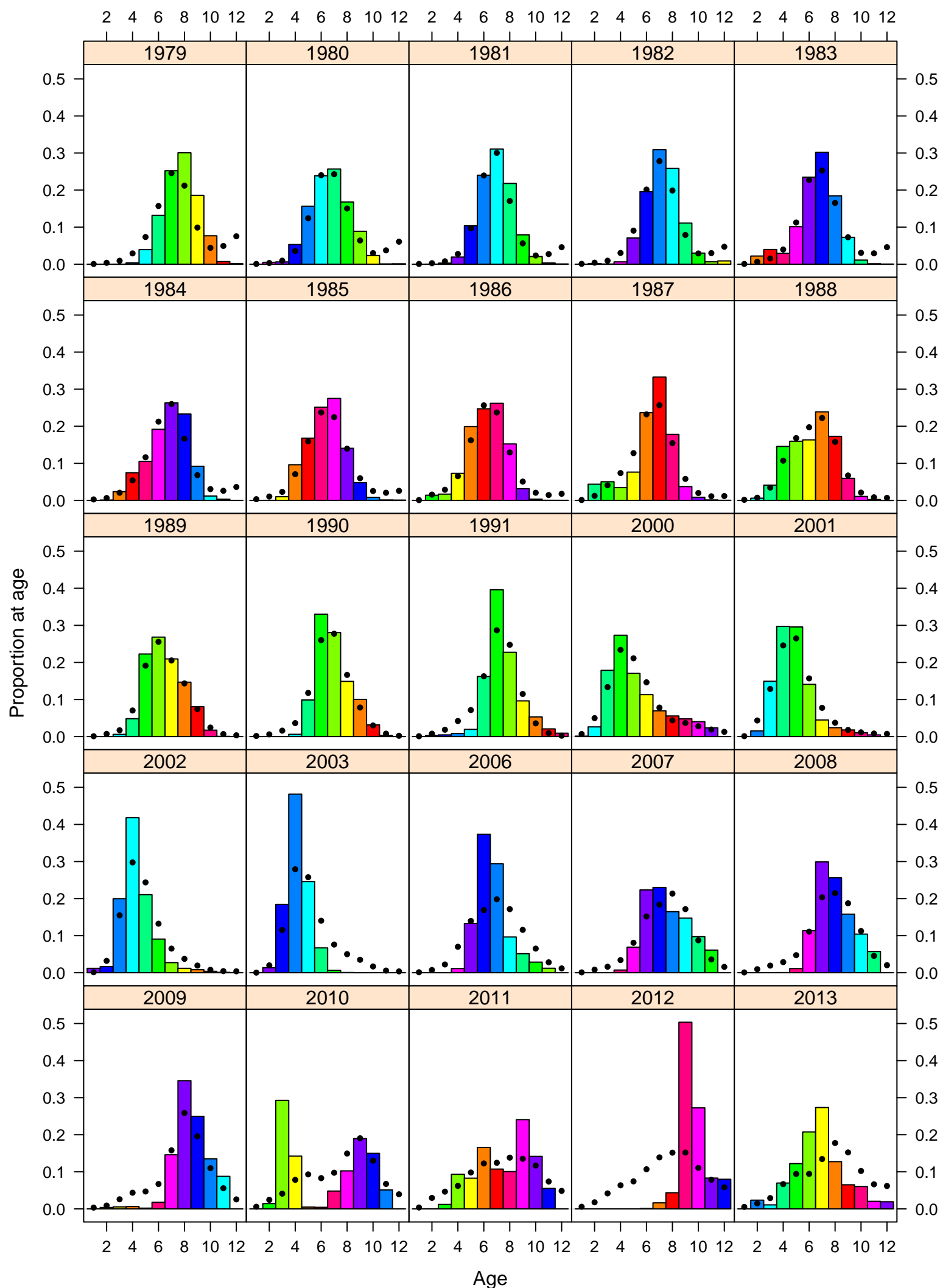
Age

Age fits Offshore_Trawl

Observed



Predicted ●



Predicted and observed catches by fleet

Observed



Predicted



1970

1980

1990

2000

2010

Offshore_Trawl

SC_Chile_PS

FarNorth

N_Chile

Thousand tonnes

4000

3000

2000

1000

0

4000

3000

2000

1000

0

1970

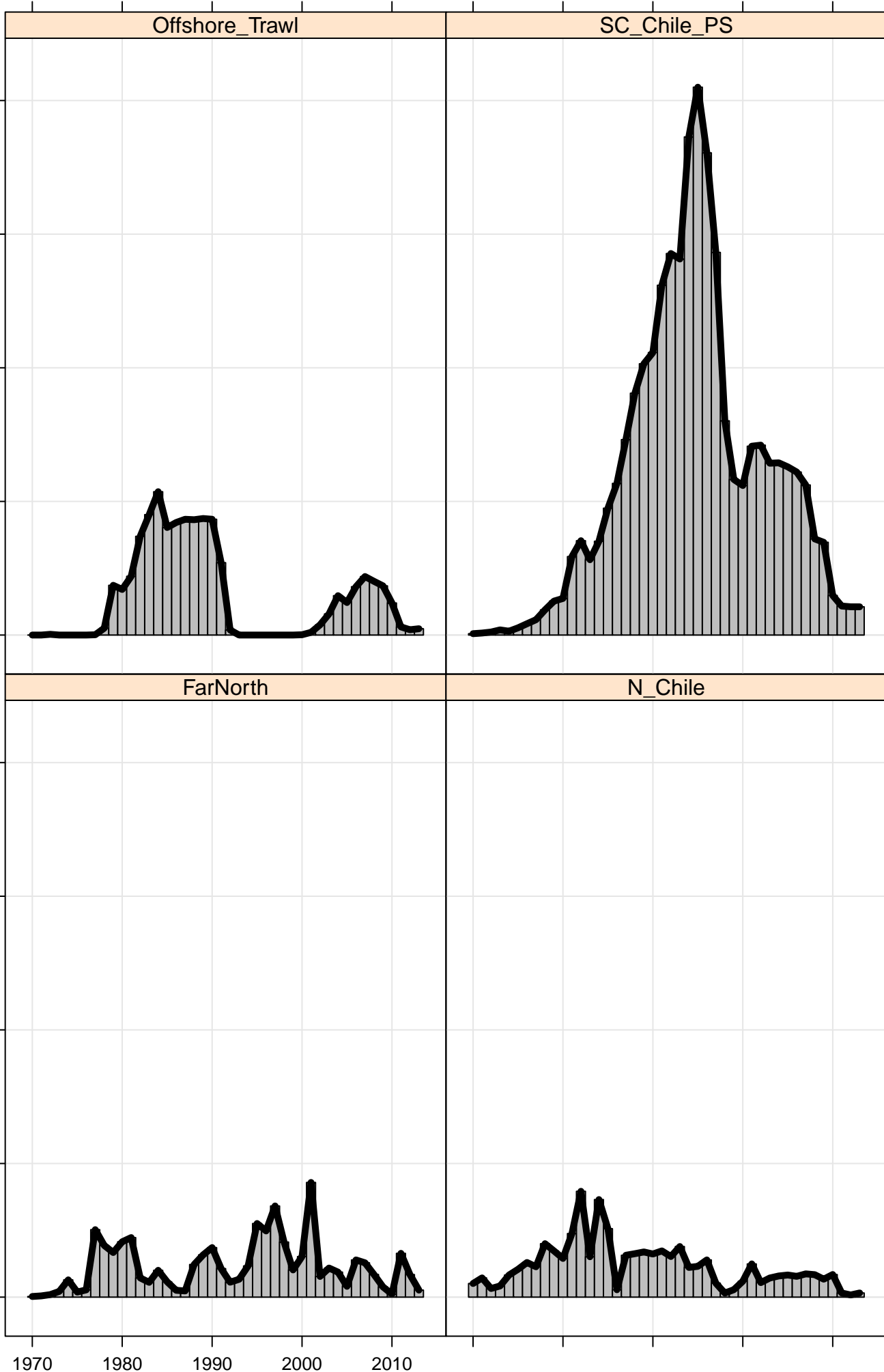
1980

1990

2000

2010

Years



Fit of survey data

Predicted and observed indices

Observed



Predicted



1970 1980 1990 2000 2010 1970 1980 1990 2000 2010 1970 1980 1990 2000 2010

Chinese_CPUE

EU_CPUE

USSR_CPUE

DEPM

Peru_Acoustic

Peru_CPUE

Chile_AcouCS

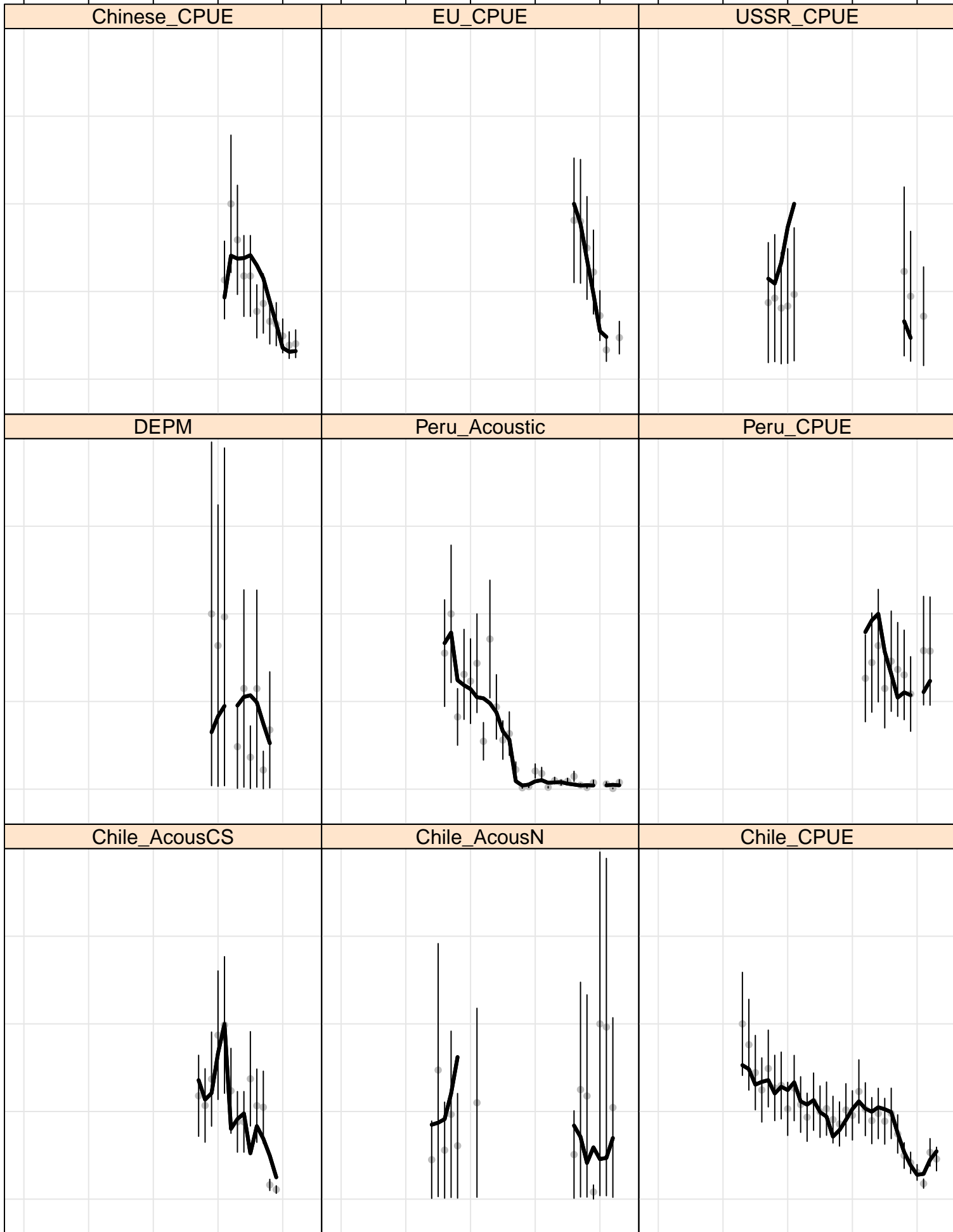
Chile_AcouSN

Chile_CPUE

Normalized index value

1970 1980 1990 2000 2010 1970 1980 1990 2000 2010 1970 1980 1990 2000 2010

Years



Age fits Chile_AcoustCS

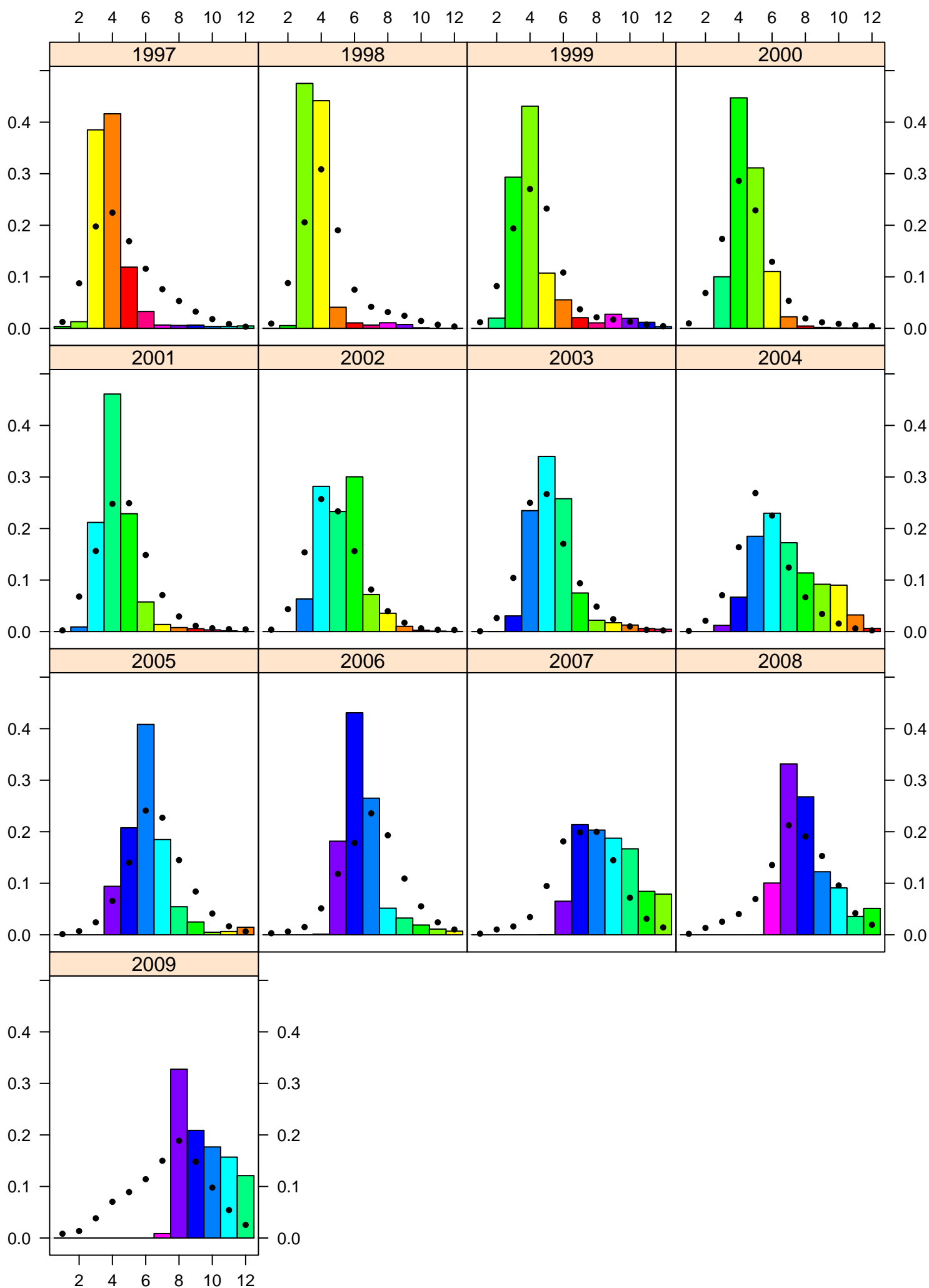
Observed



Predicted



Proportion at age



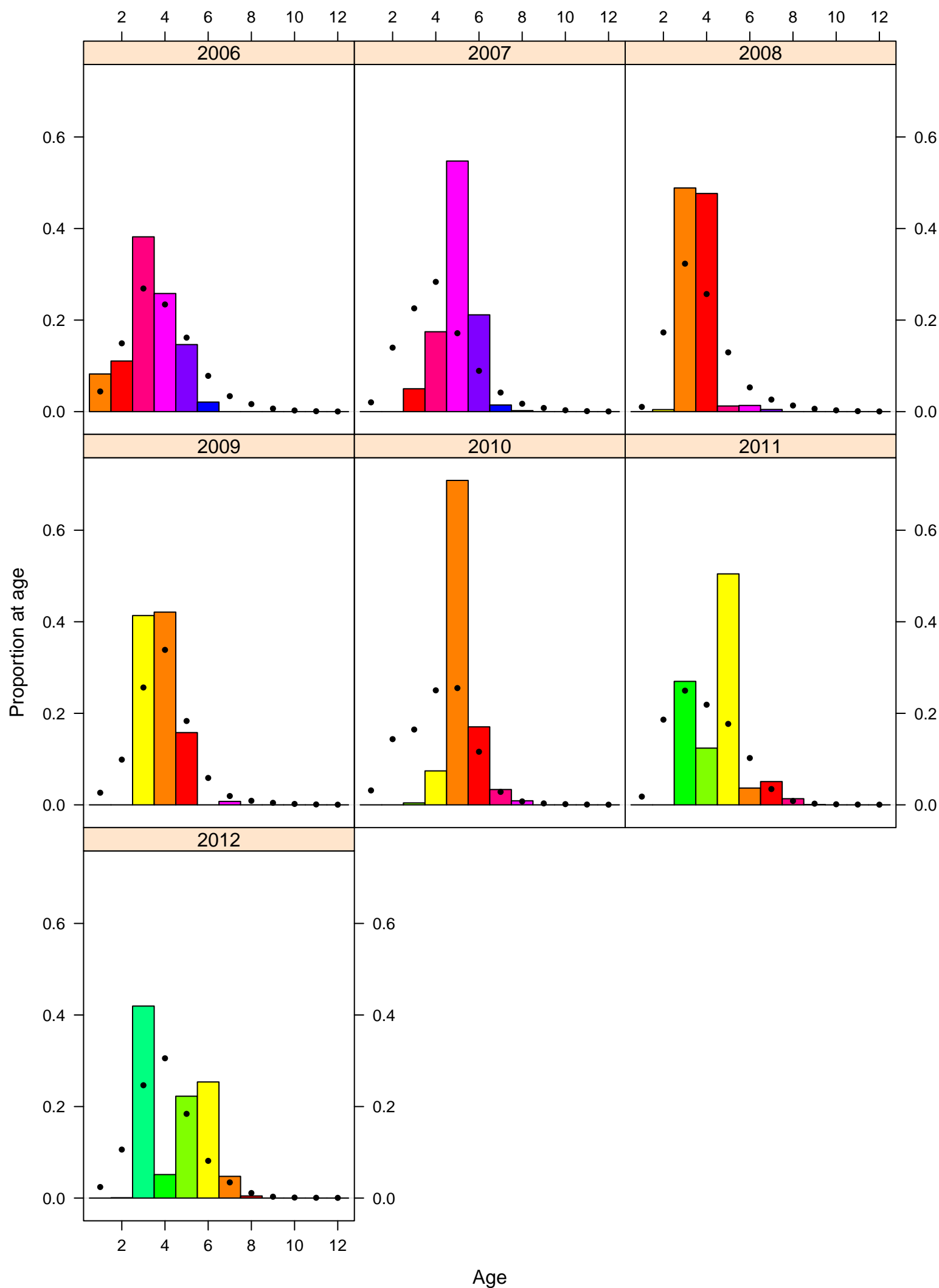
Age

Age fits Chile_AcousN

Observed



Predicted



Age fits DEPM

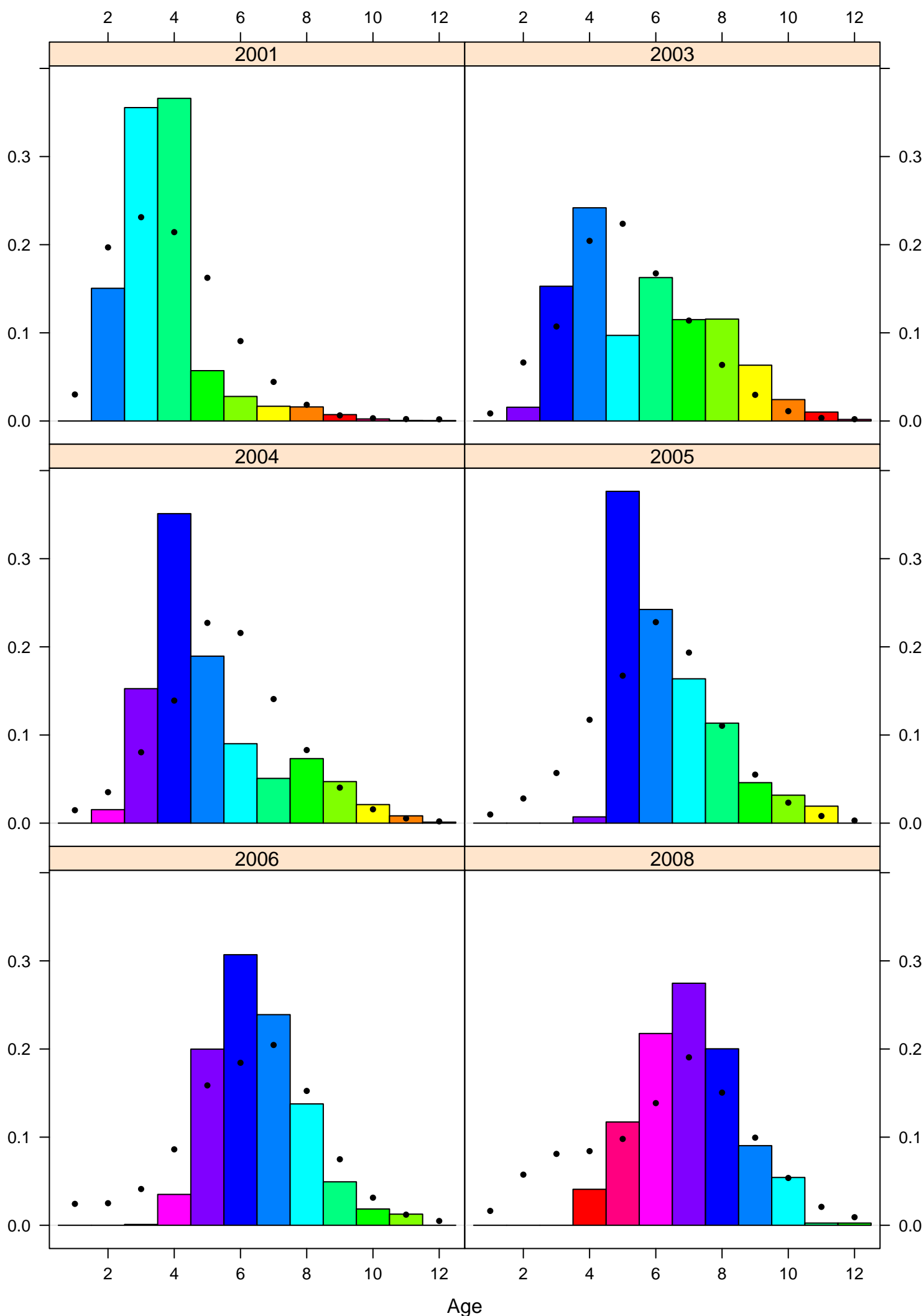
Observed



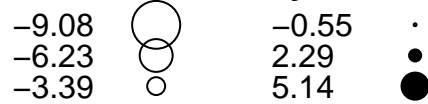
Predicted



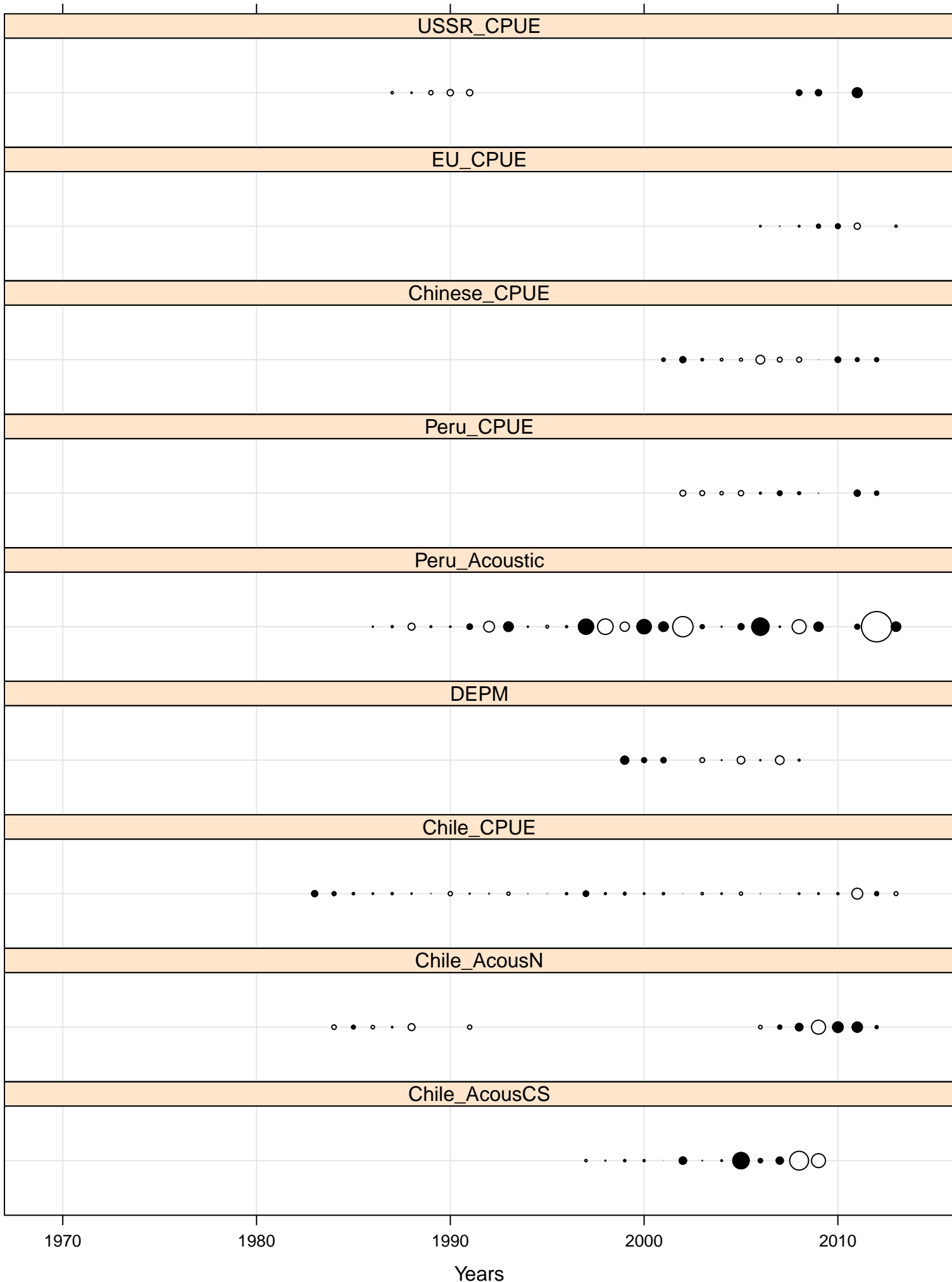
Proportion at age



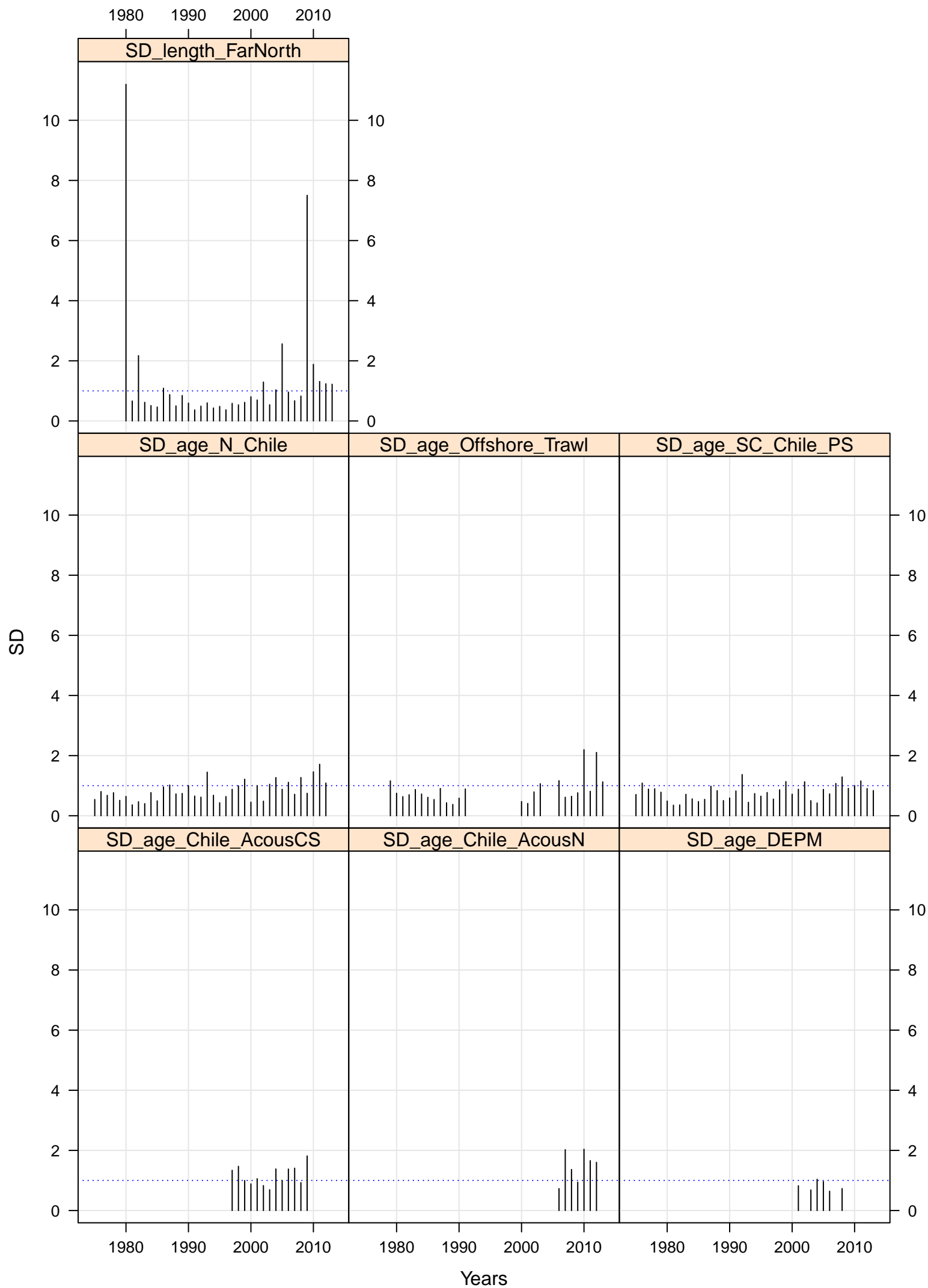
Standardized survey residuals



Log residuals

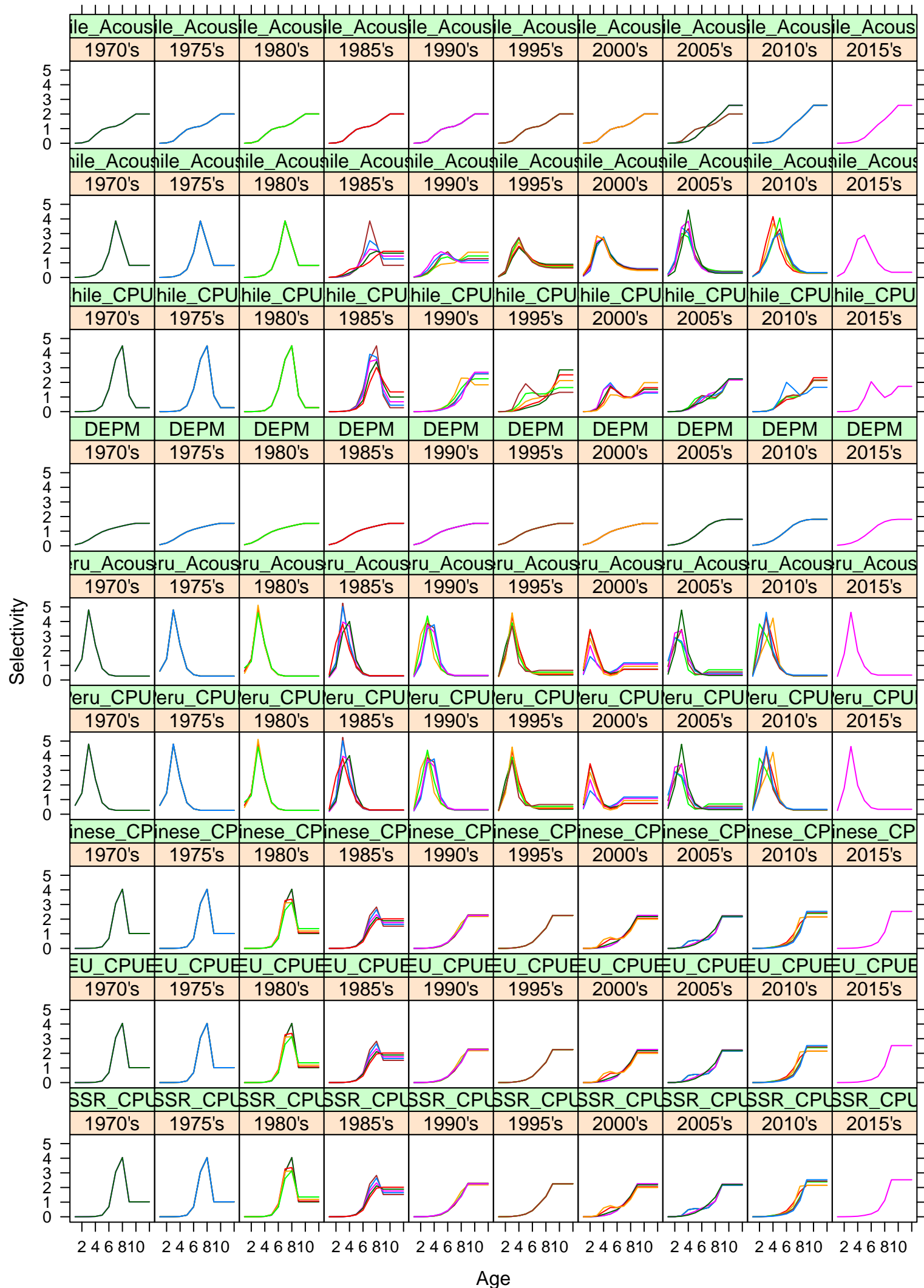


SD per input series

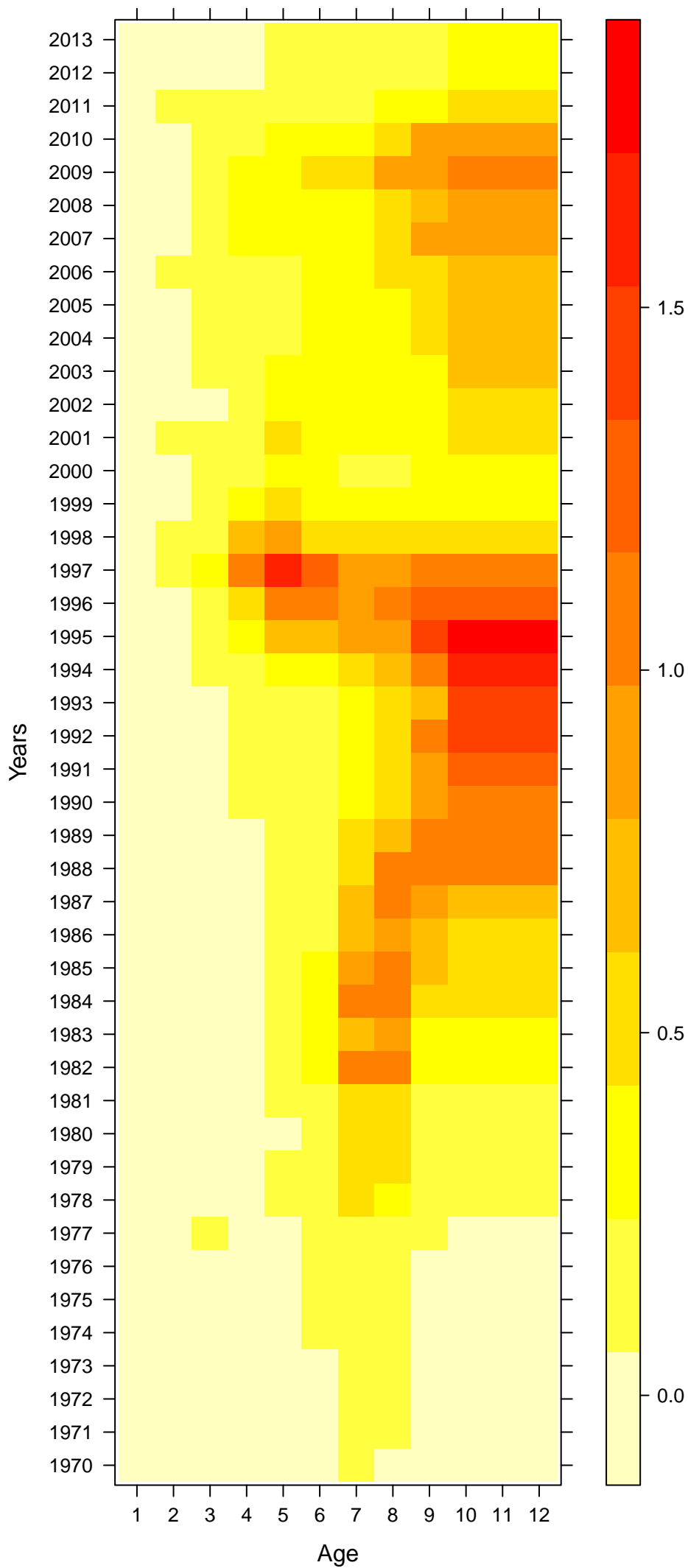


Fleet & Survey sel & F

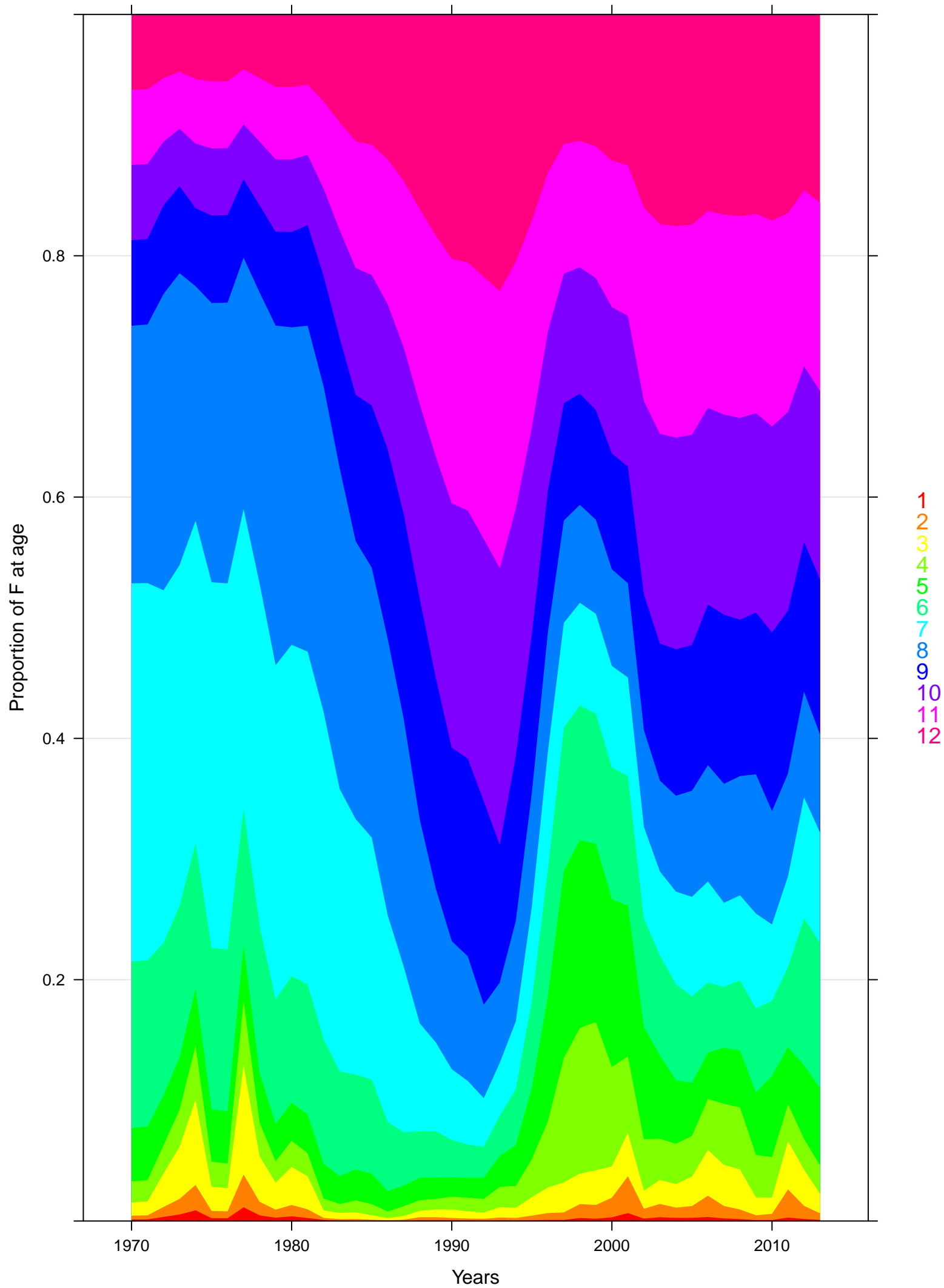
Selectivity of the survey by Pentad



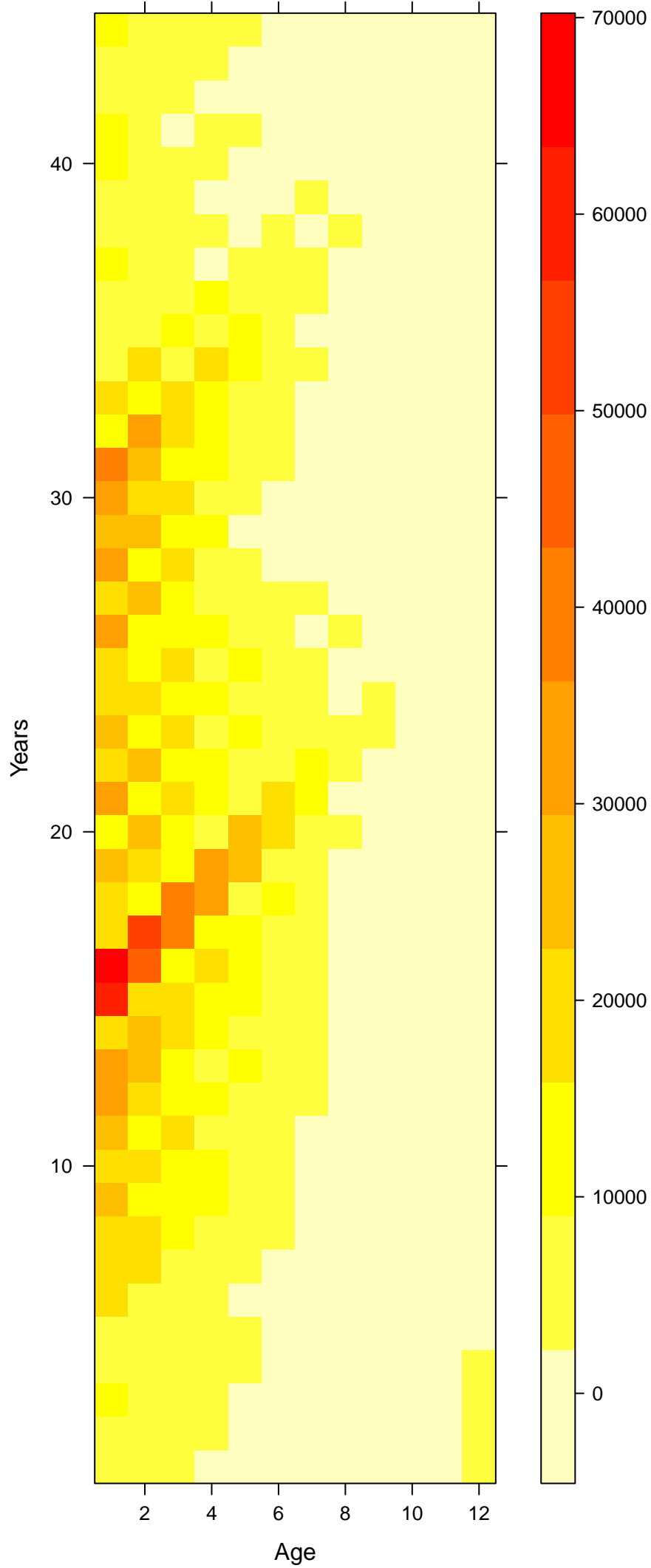
F at age



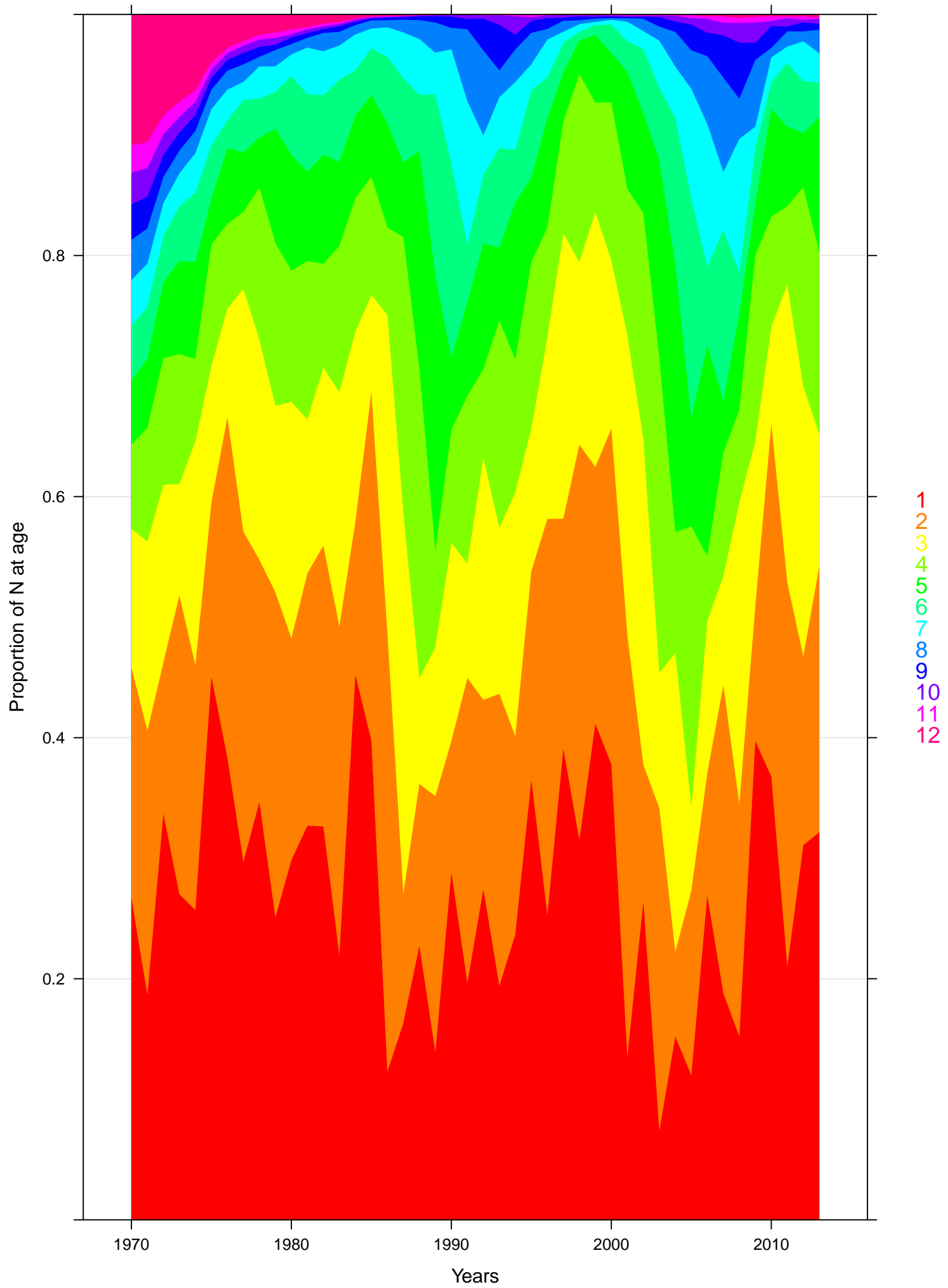
F proportion at age



N at age



Proportion at age



Fishery mean age

Observed



Modelled



Age

SC_Chile_PS

10

8

6

4

2

N_Chile

Offshore_Trawl

10

8

6

4

2

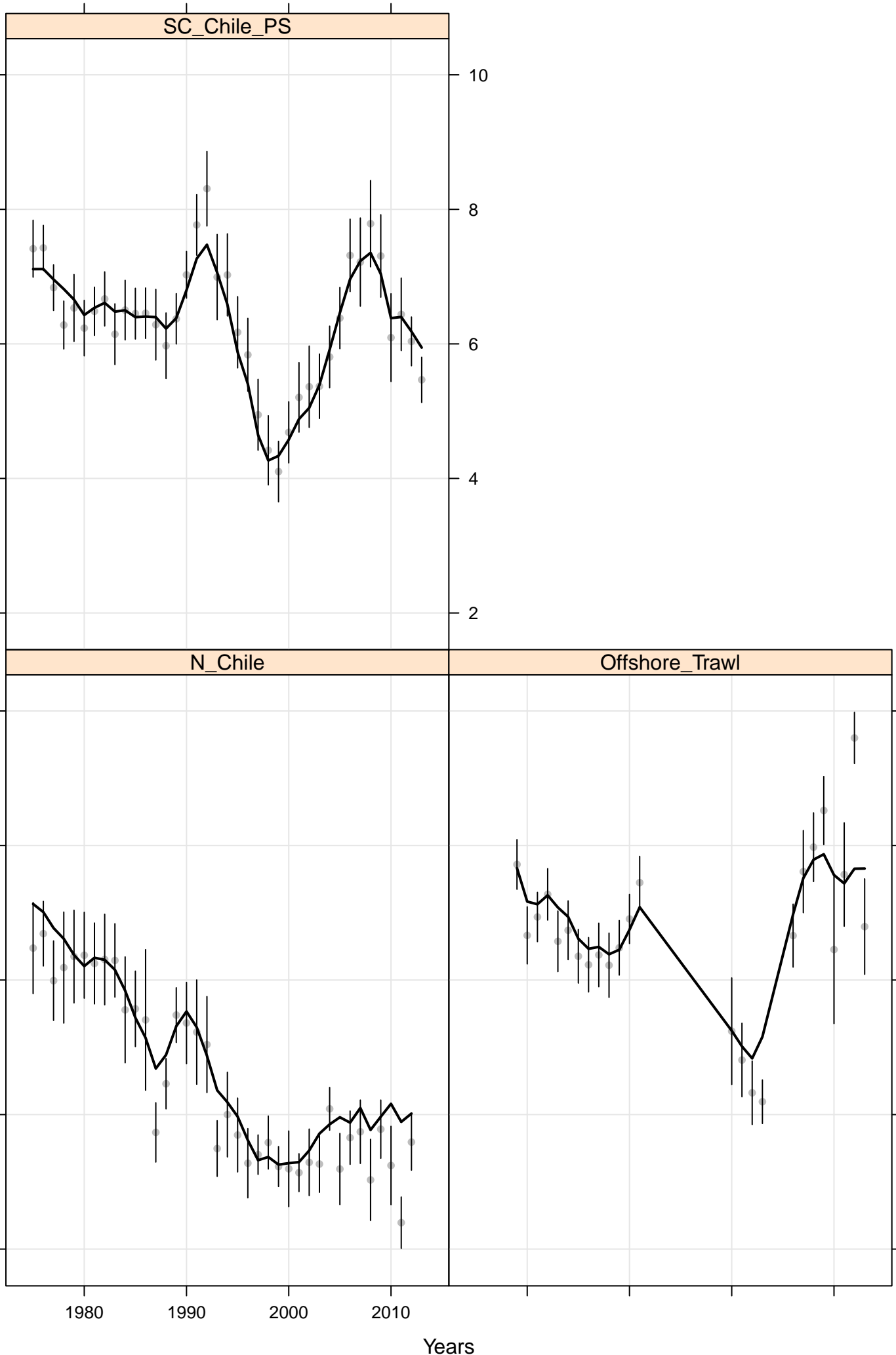
1980

1990

2000

2010

Years



Survey mean age

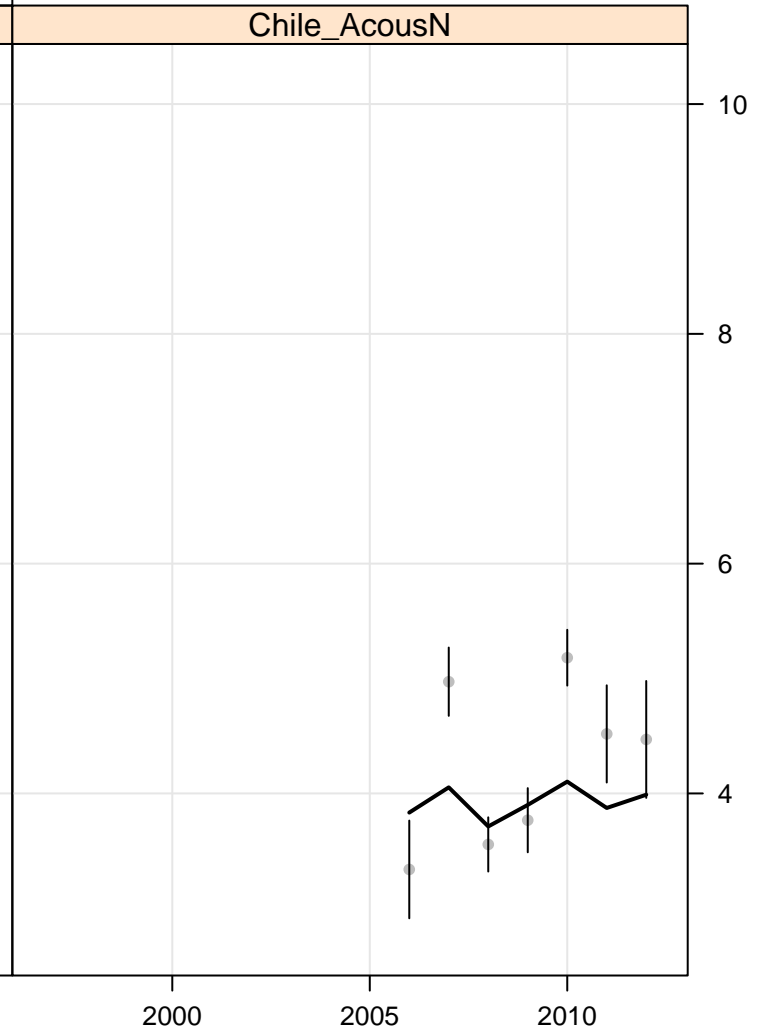
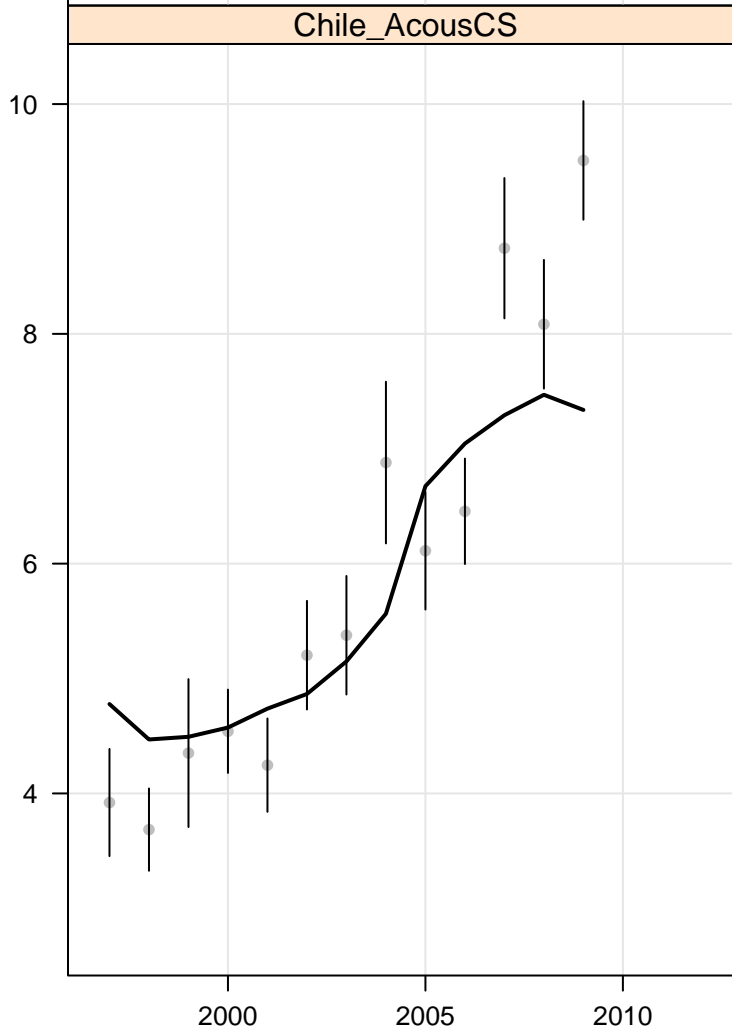
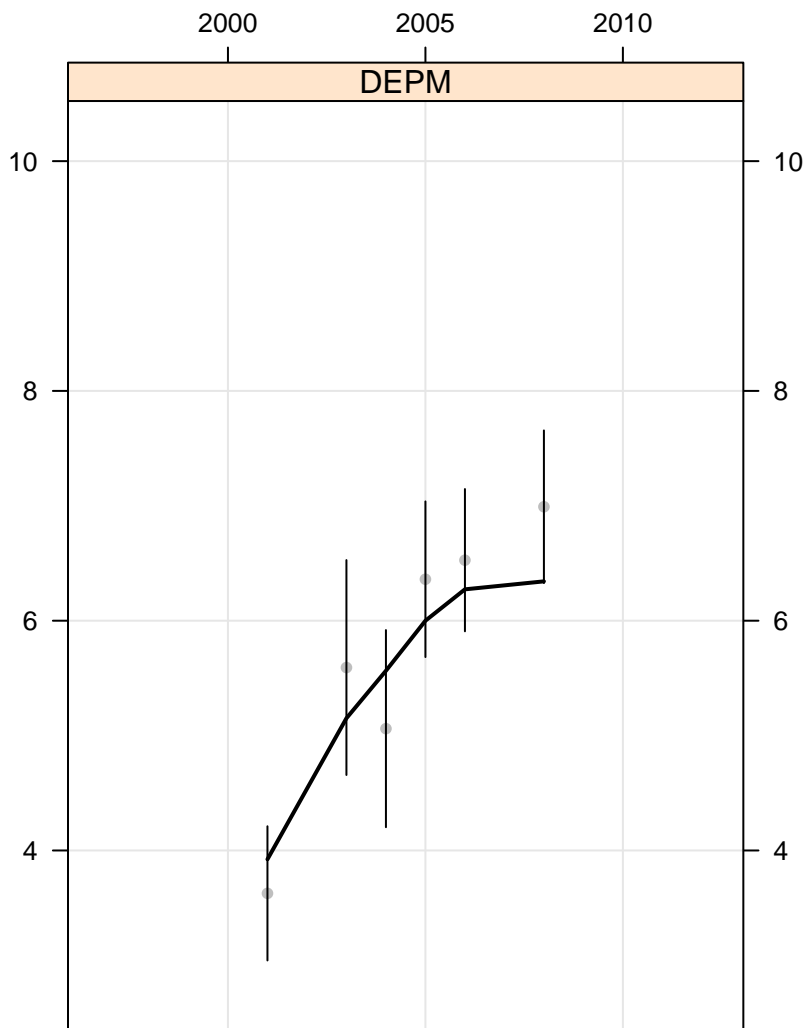
Observed



Modelled



Age

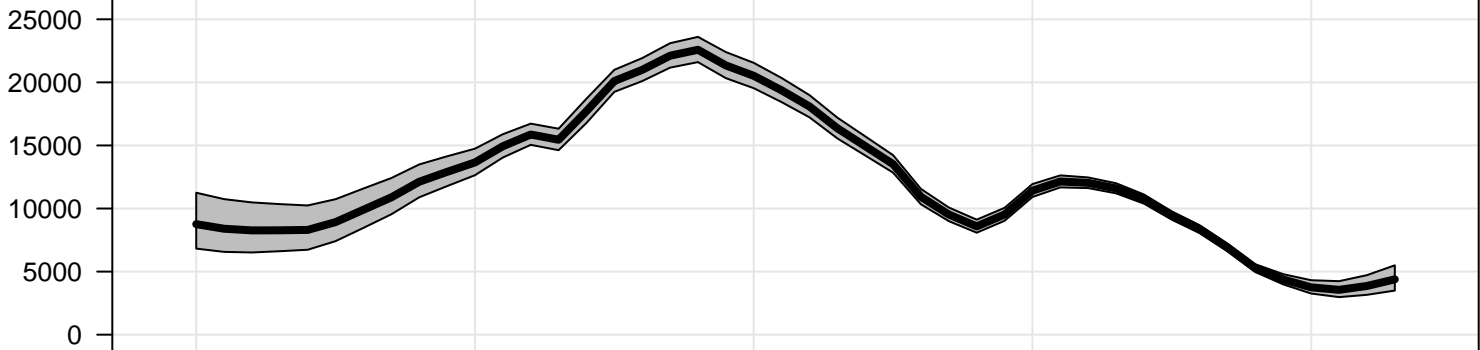


Years

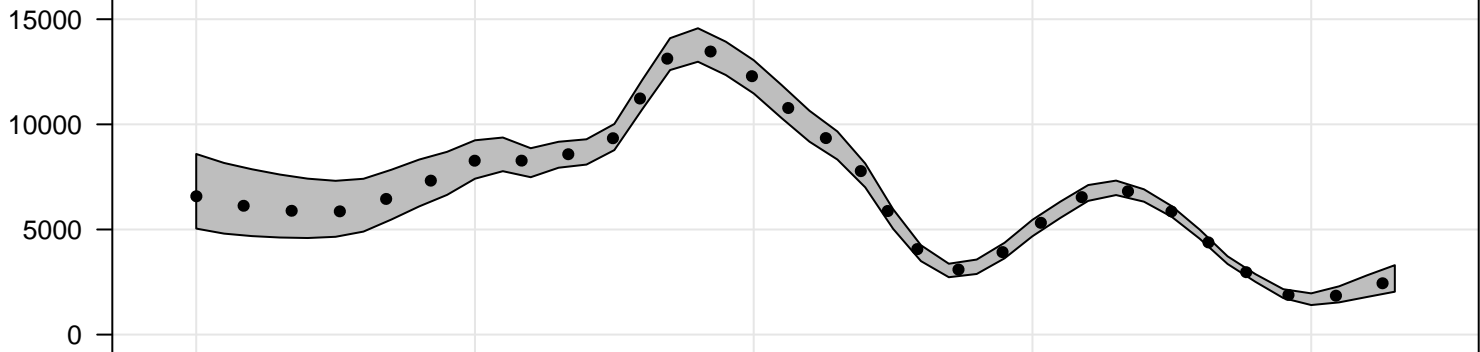
Stock summary

Summary sheet

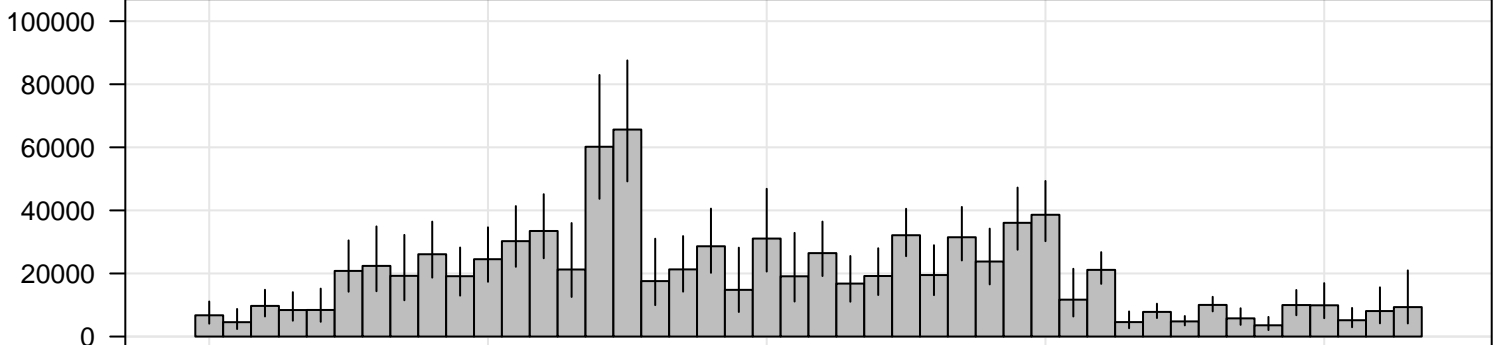
Total biomass



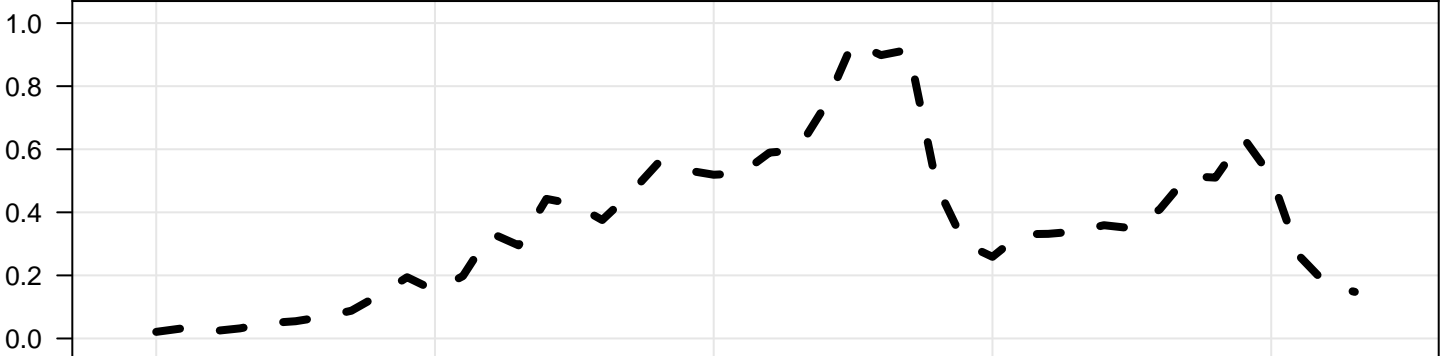
Spawning Stock Biomass



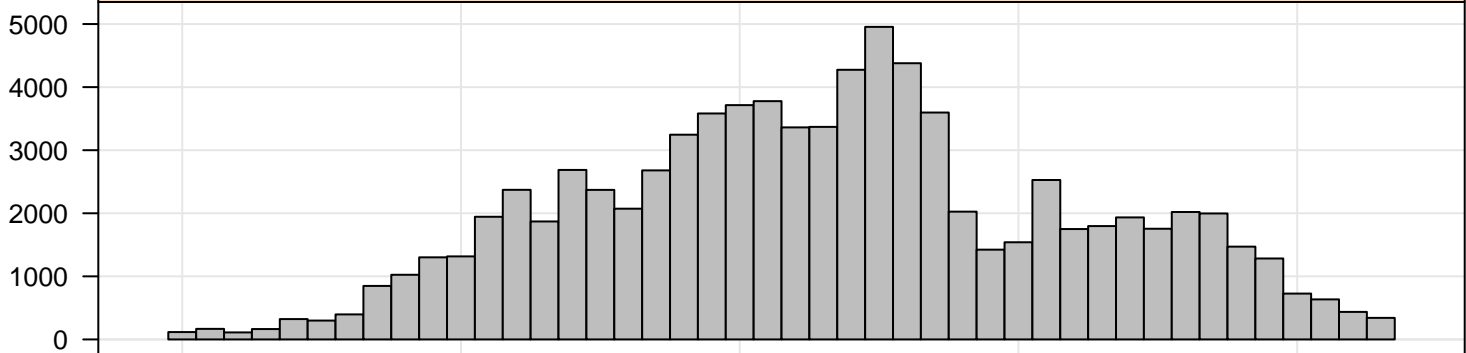
Recruitment



Fishing mortality

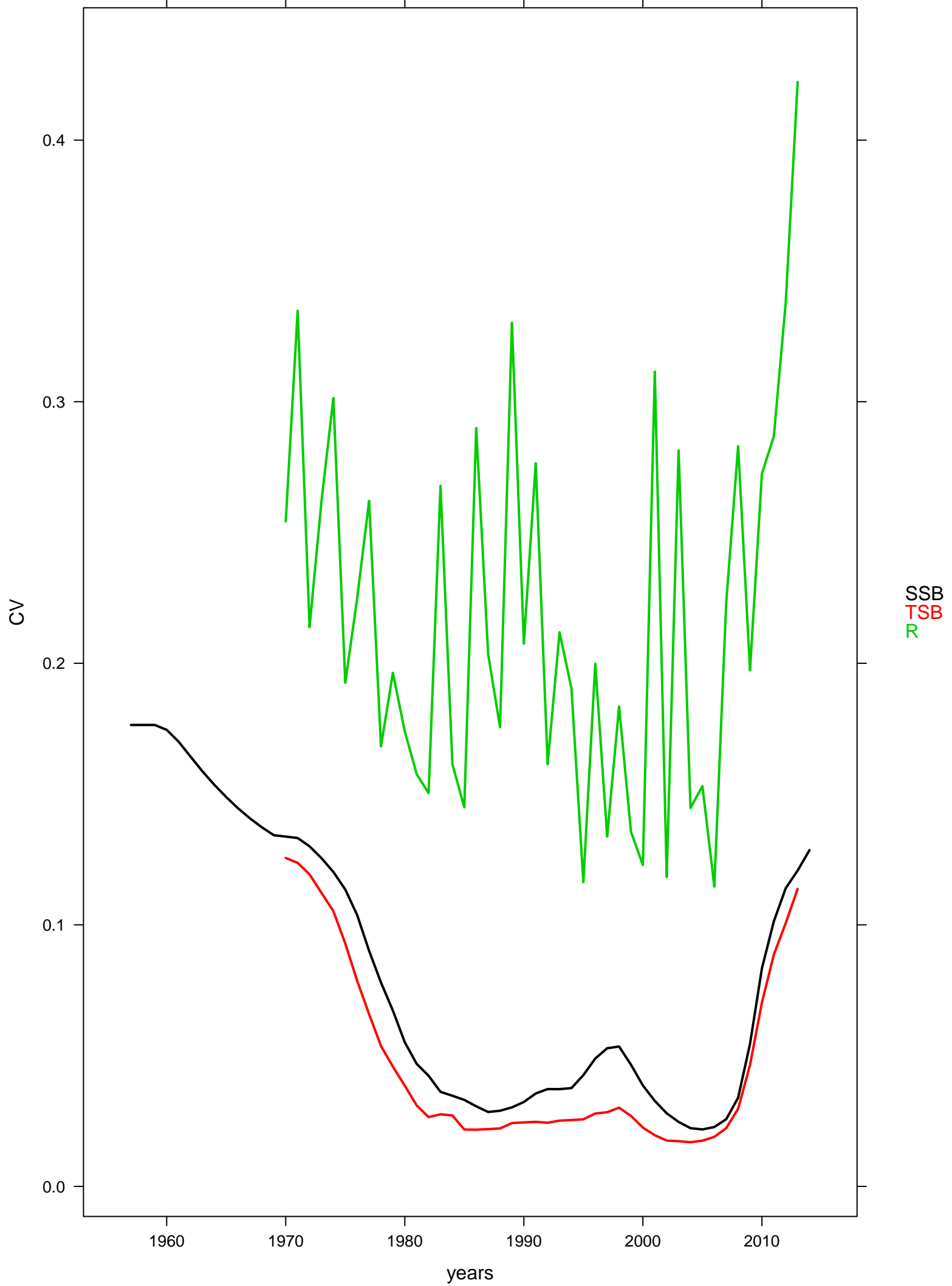


Catches



year

Uncertainty of key parameters



Mature – Immature fish

Mature

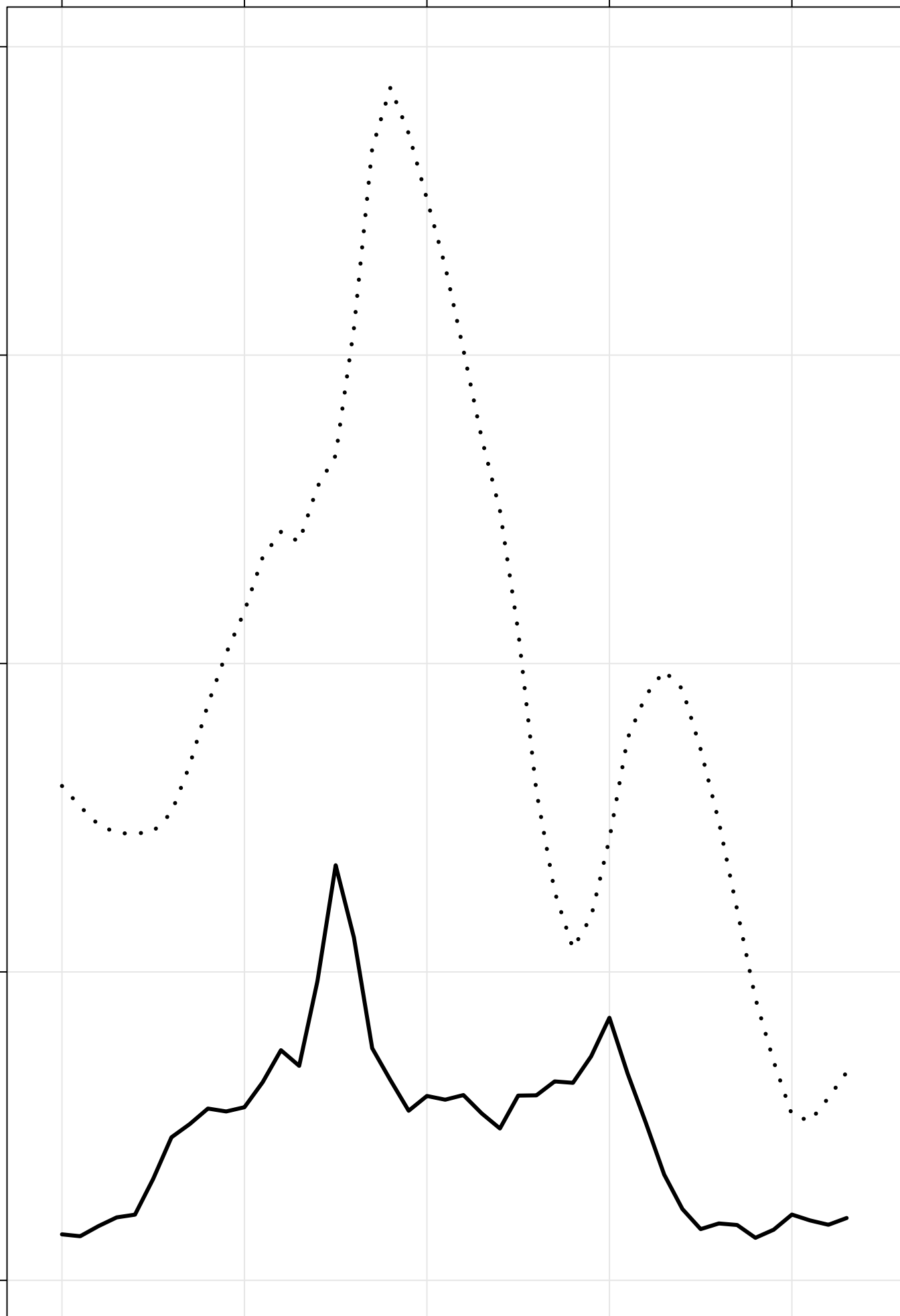
Immature —

Biomass in kt

20000
15000
10000
5000
0

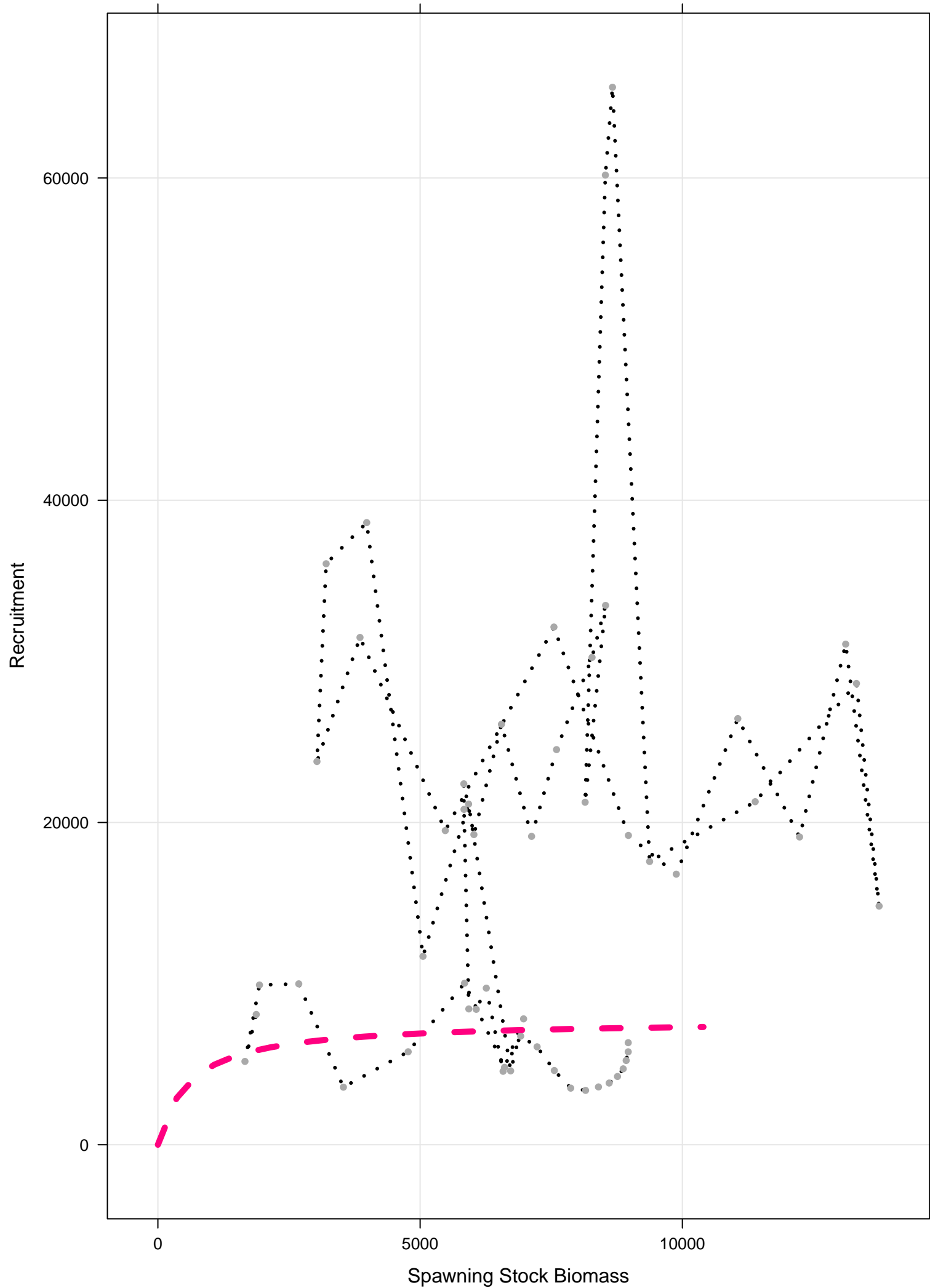
1970 1980 1990 2000 2010

Years



Stock Recruitment

Observed ● Modelled - - -



Fished vs. unfished biomass

Fished



Unfished



Total biomass

40000
30000
20000
10000

1970

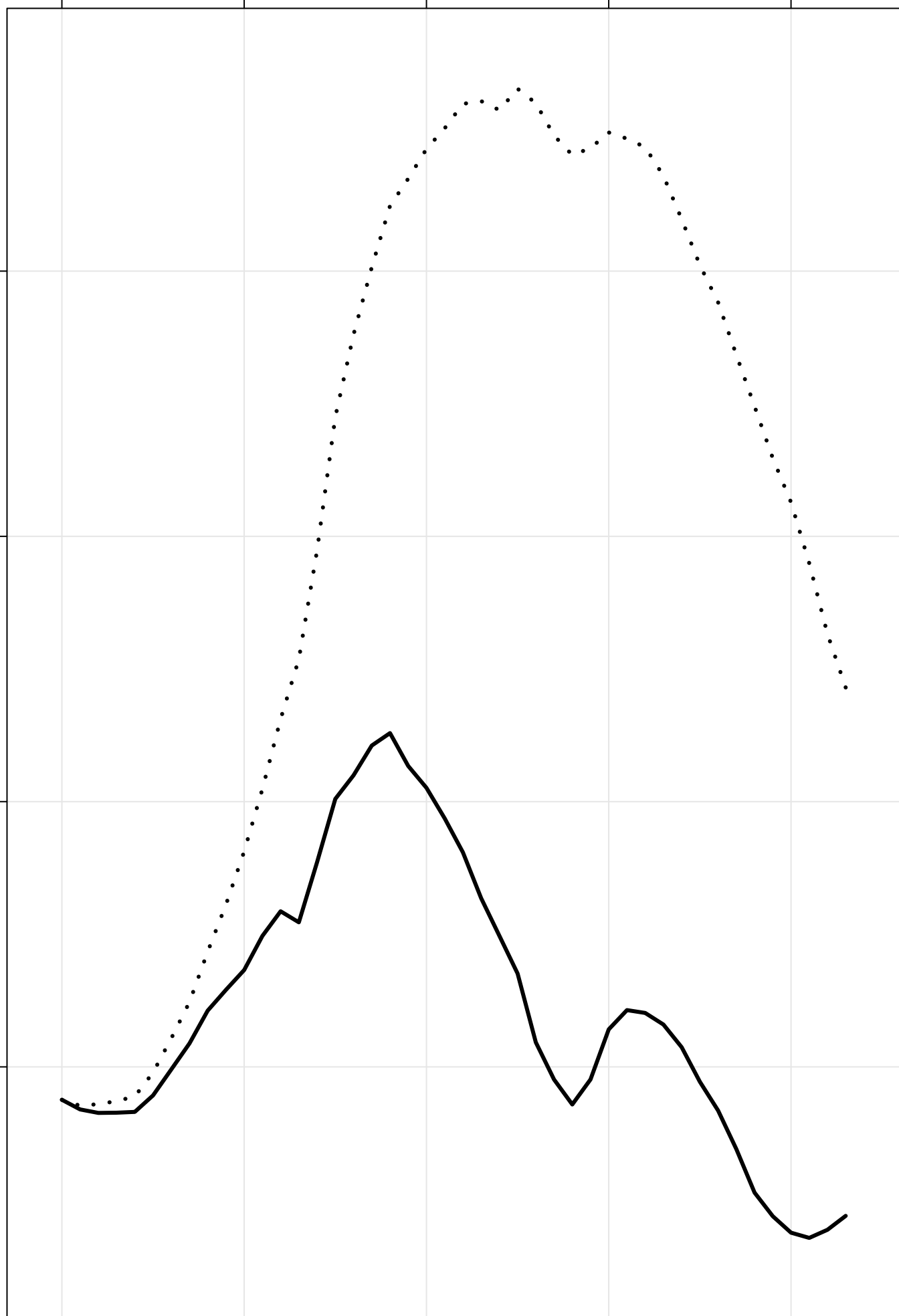
1980

1990

2000

2010

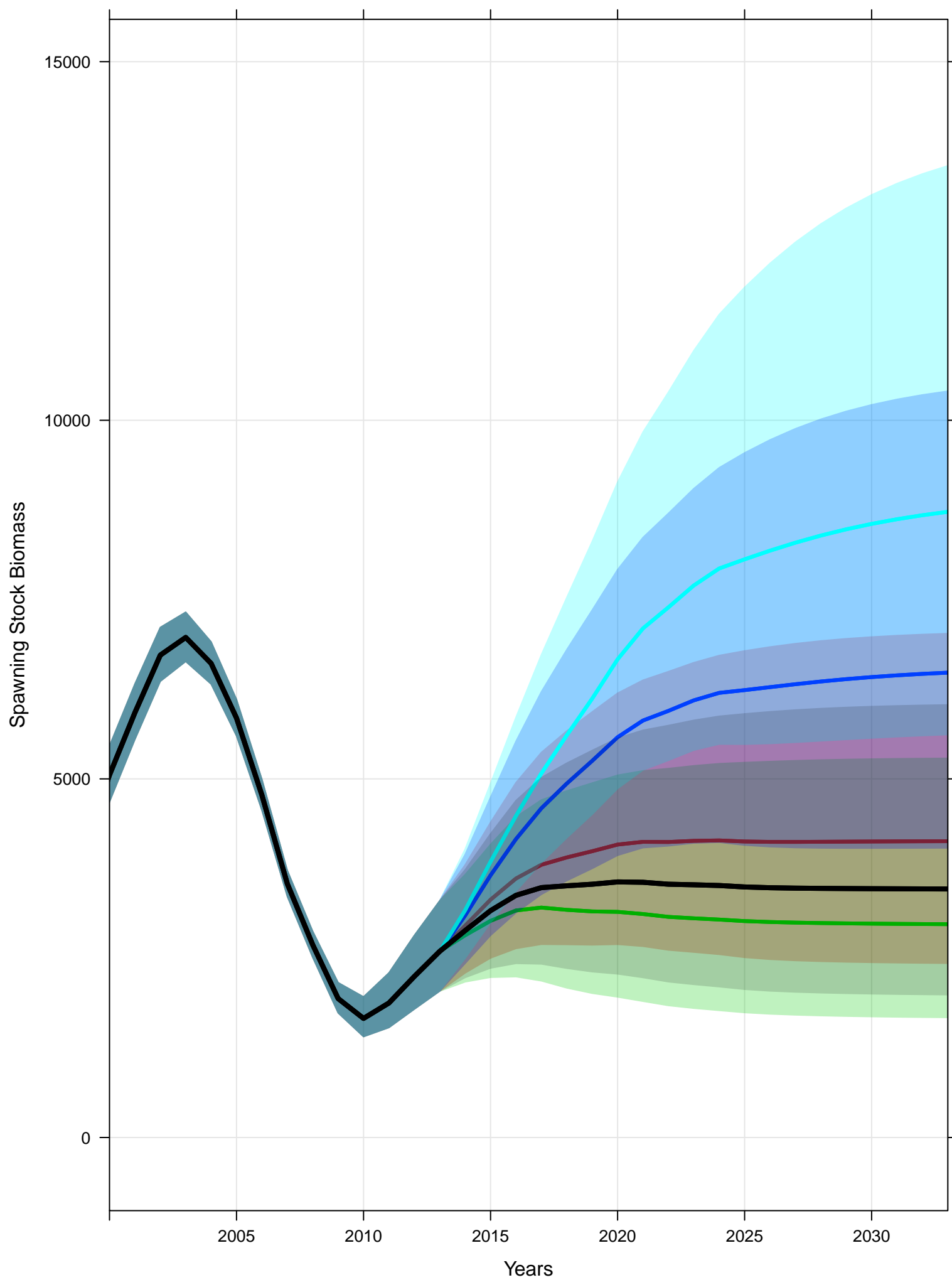
Years



Projections

SSB prediction

F2012 SQ F2012 0.25x
F2012 0.75x F2012 0x
F2012 0.5x



Catch prediction

F2012 SQ
F2012 0.75x
F2012 0.5x

F2012 0.25x
F2012 0x

