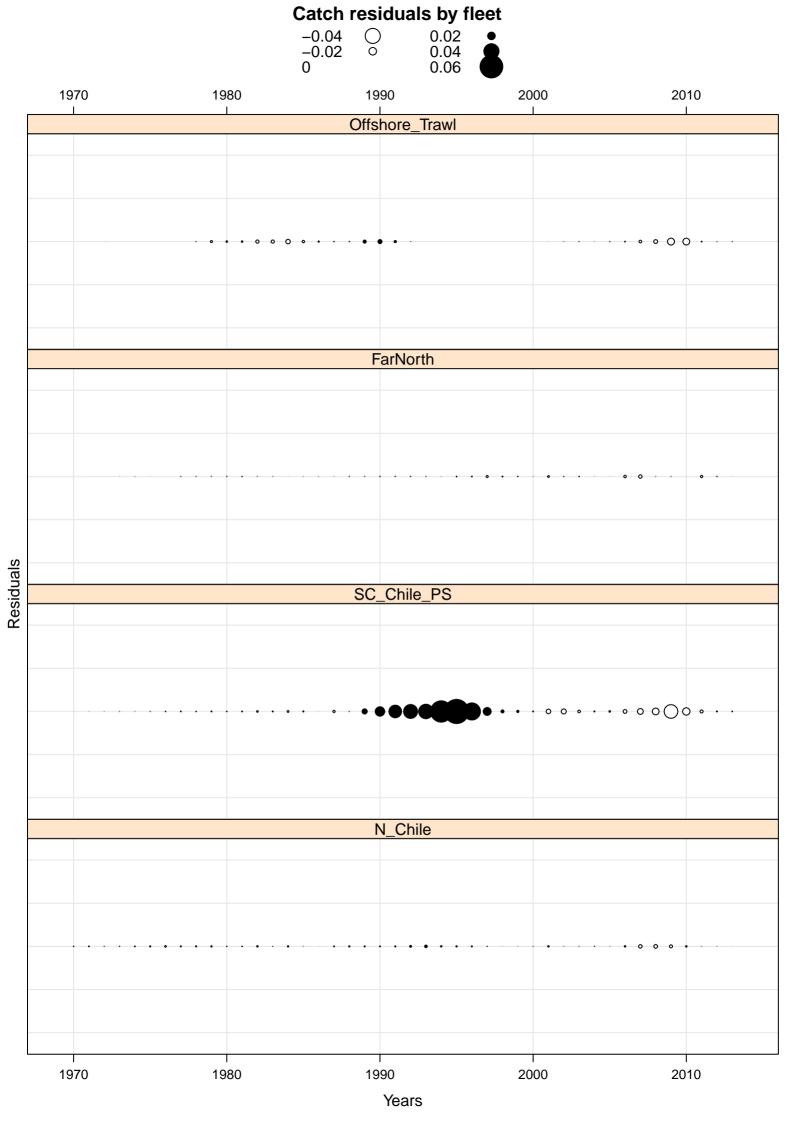
Fit of catch data

Total catch

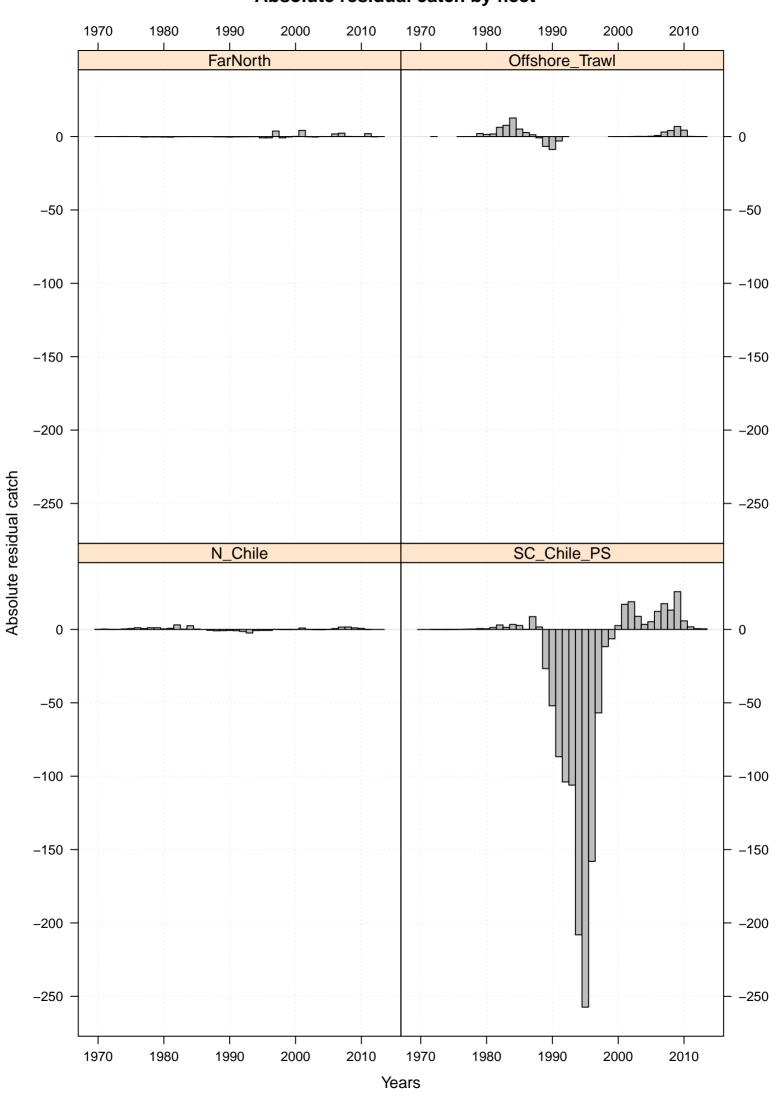


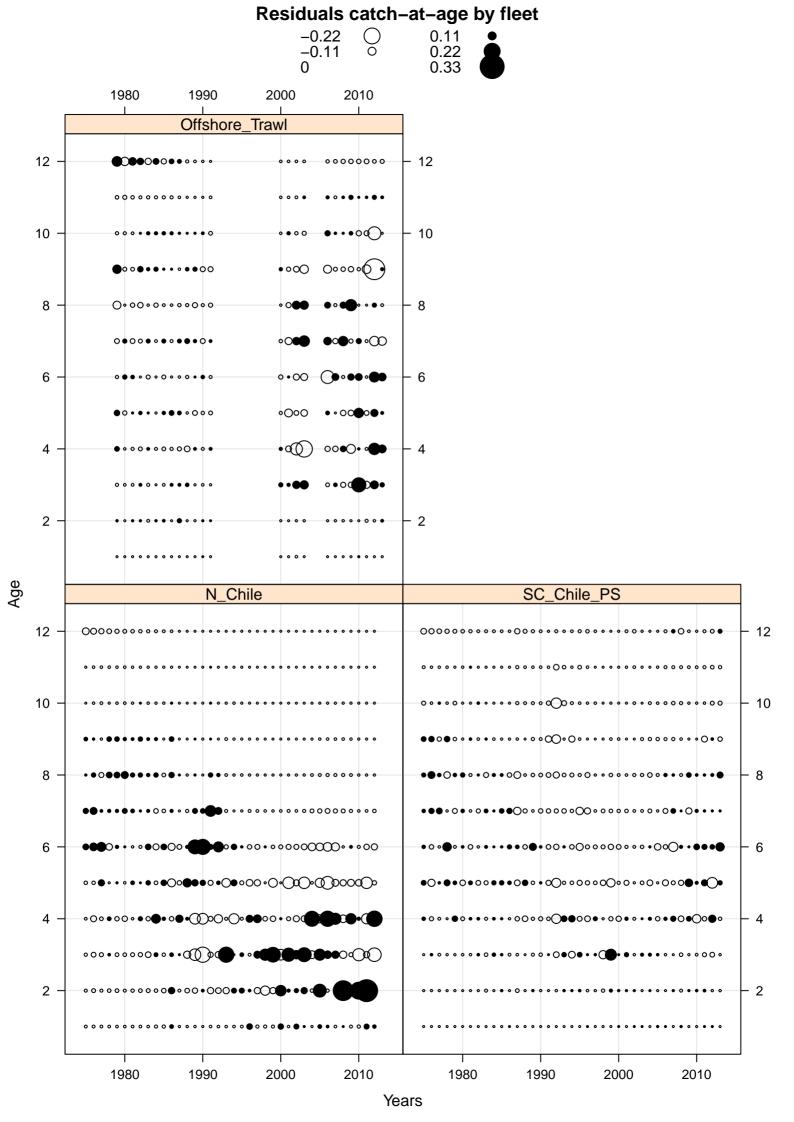
Total catch by fleet



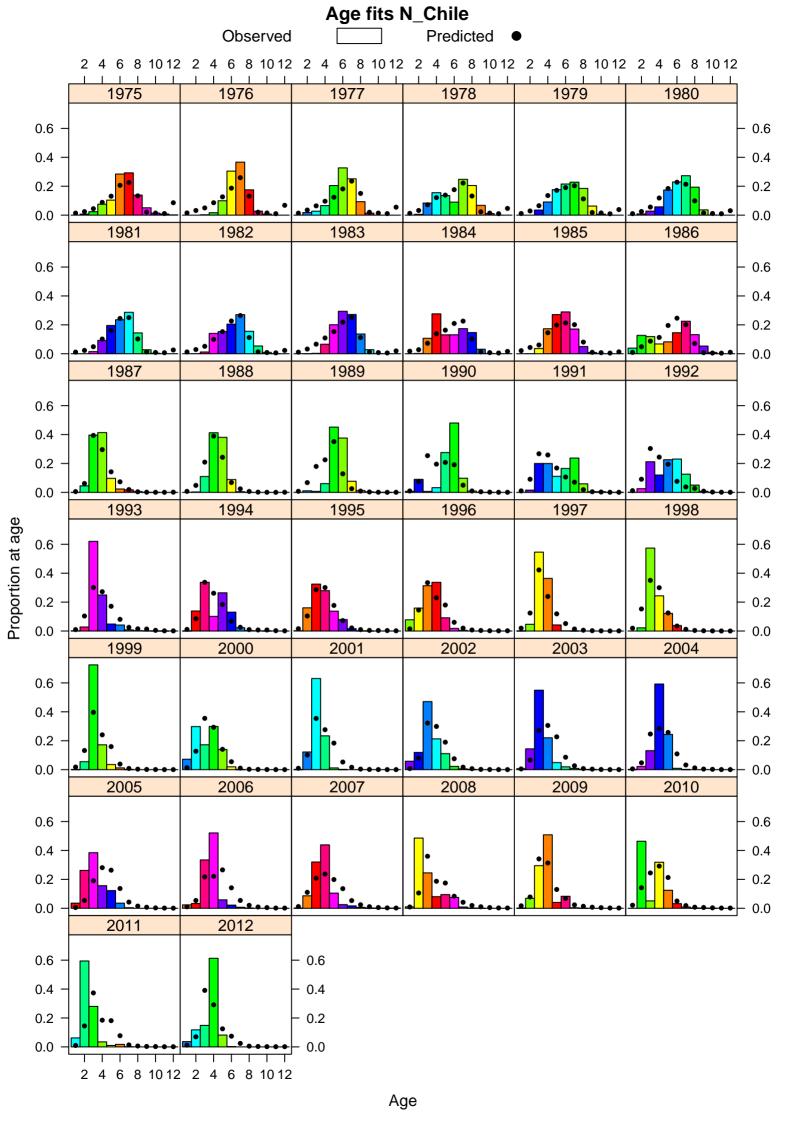


Absolute residual catch by fleet





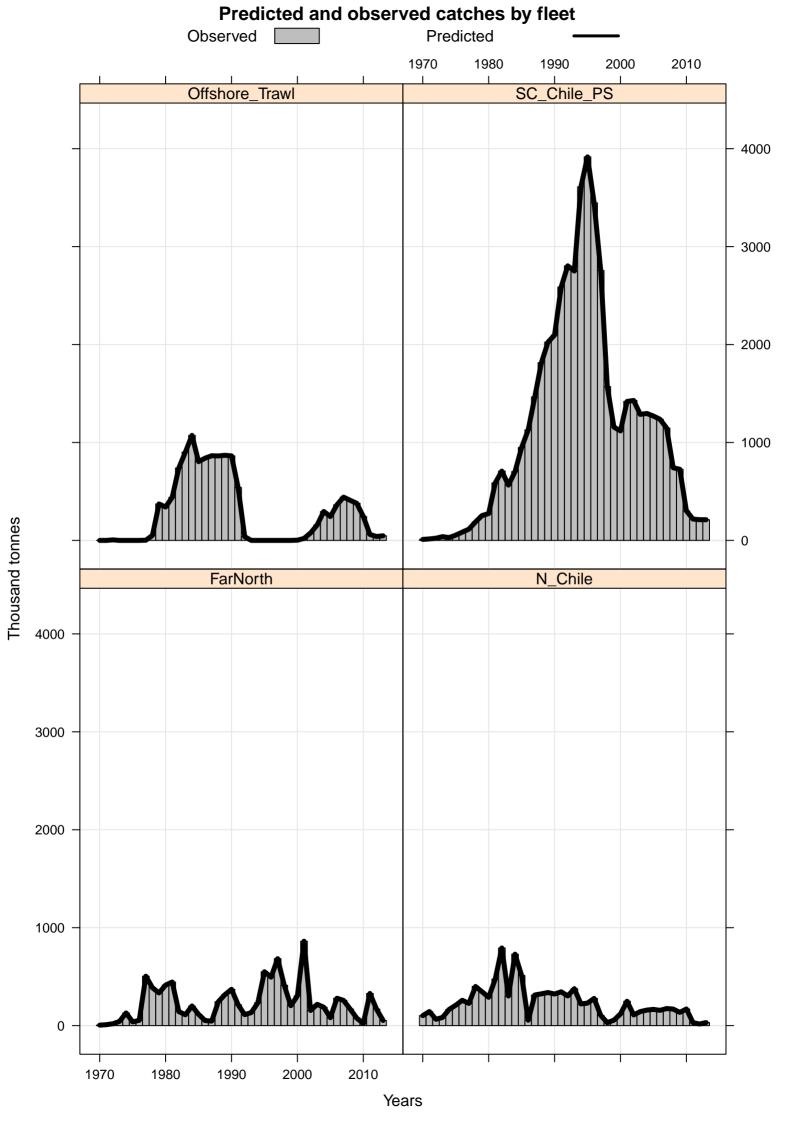
Residuals catch-at-length by fleet -0.080 0.18 0.27 0.35 0.01 0.09 1980 1990 2010 2000 FarNorth 50 | 50 40 - 40 Length 30 - 30 20 - 20 10 - 10 1980 1990 2000 2010 Years



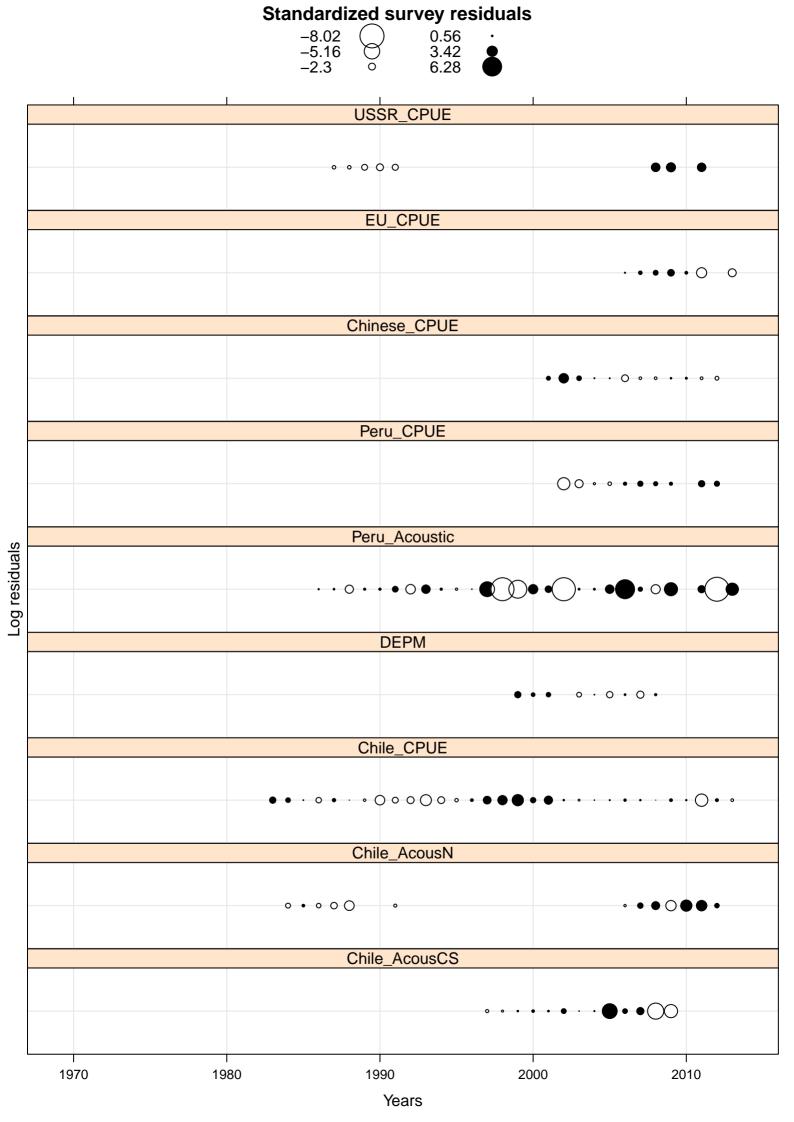
Age fits SC_Chile_PS Observed Predicted 8 10 12 2 4 6 8 10 12 2 4 6 8 10 12 2 4 6 8 10 12 2 4 6 2 4 6 8 10 12 2 4 6 8 10 12 1976 1977 1978 1980 1975 1979 0.4 0.4 0.3 0.3 0.2 0.2 0.1 0.1 0.0 0.0 1982 1983 1984 1981 1985 1986 0.4 0.4 0.3 0.3 0.2 0.2 0.1 0.1 0.0 0.0 1990 1987 1991 1988 1989 1992 0.4 0.4 0.3 0.3 0.2 0.2 0.1 0.1 0.0 0.0 1994 1997 1998 1993 1995 1996 Proportion at age 0.4 0.4 0.3 0.3 0.2 0.2 0.1 0.1 0.0 0.0 2000 1999 2001 2002 2003 2004 0.4 0.4 0.3 0.3 0.2 0.2 0.1 0.1 0.0 0.0 2005 2006 2007 2008 2009 2010 0.4 0.4 0.3 0.3 0.2 0.2 0.1 0.1 0.0 0.0 2011 2012 2013 0.4 0.4 0.3 0.3 0.2 0.2 0.1 0.1 0.0 0.0 2 4 6 8 10 12 2 4 6 8 10 12 2 4 6 8 10 12 Age

Age fits Offshore_Trawl Observed Predicted 4 6 8 10 12 8 10 12 10 12 2 6 8 10 12 2 6 8 10 12 1979 1980 1981 1982 1983 0.5 0.5 0.4 0.4 0.3 0.3 0.2 0.2 0.1 0.1 0.0 0.0 1984 1985 1986 1987 1988 0.5 0.5 0.4 - 0.4 0.3 - 0.3 0.2 0.2 0.1 0.1 0.0 0.0 1989 1990 1991 2000 2001 0.5 0.5 Proportion at age 0.4 0.4 0.3 - 0.3 0.2 0.2 0.1 0.1 0.0 0.0 2002 2003 2006 2007 2008 0.5 0.5 0.4 0.4 0.3 - 0.3 0.2 0.2 0.1 0.1 0.0 0.0 2009 2010 2012 2013 2011 0.5 0.5 0.4 0.4 0.3 0.3 0.2 0.2 0.1 0.1 0.0 0.0 8 10 12 2 6 8 10 12 2 4 6 8 10 12 6 2 8 10 12 4 6 4 2 4 6 8 10 12 4 Age

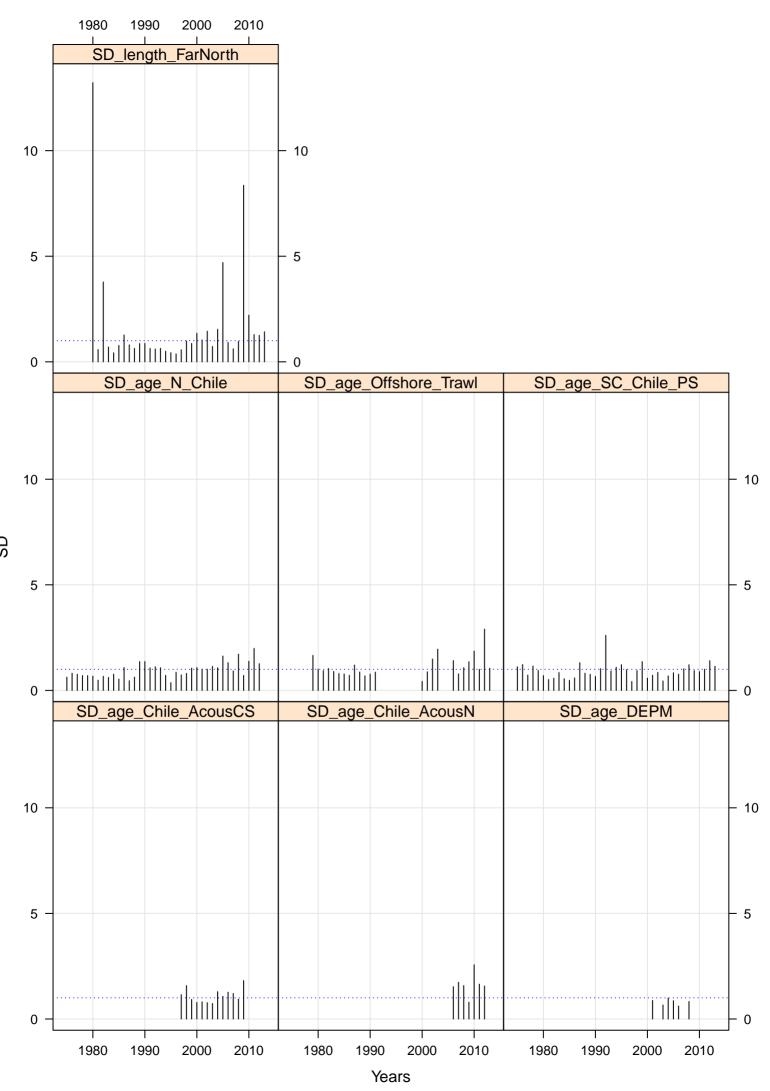
Length fits FarNorth Observed Predicted 10 20 30 40 10 20 30 40 50 1980 1981 1982 1983 1984 0.5 0.4 0.3 0.2 0.1 0.0 1985 1986 1987 1988 1989 0.5 0.4 0.3 0.2 0.1 0.0 1990 1994 1991 1992 1993 0.5 0.4 0.3 0.2 0.1 0.0 1996 1997 1995 1998 1999 Proportion at length 0.5 0.4 0.3 0.2 0.1 0.0 2000 2001 2002 2003 2004 0.5 0.4 0.3 0.2 0.1 0.0 2007 2009 2005 2006 2008 0.5 0.4 0.3 0.2 0.1 0.0 2010 2011 2012 2013 0.5 0.4 0.3 0.2 0.1 0.0 20 30 40 30 40 50 10 50 10 20 Length



Fit of survey data

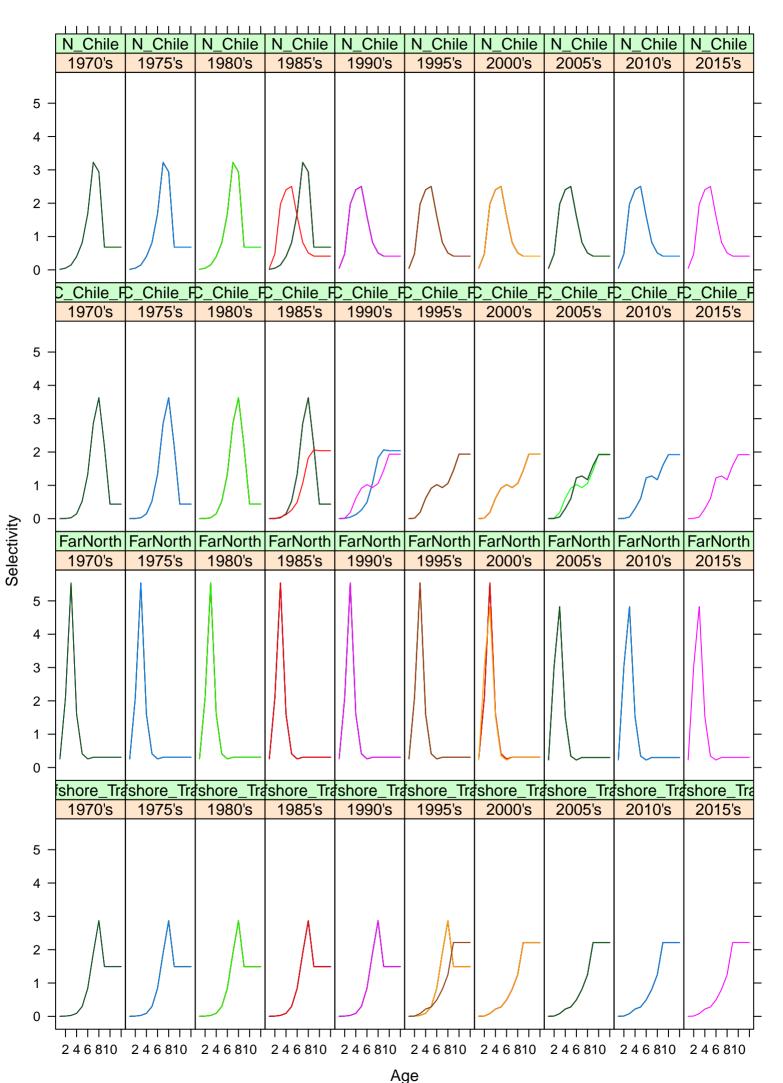


SD per input series

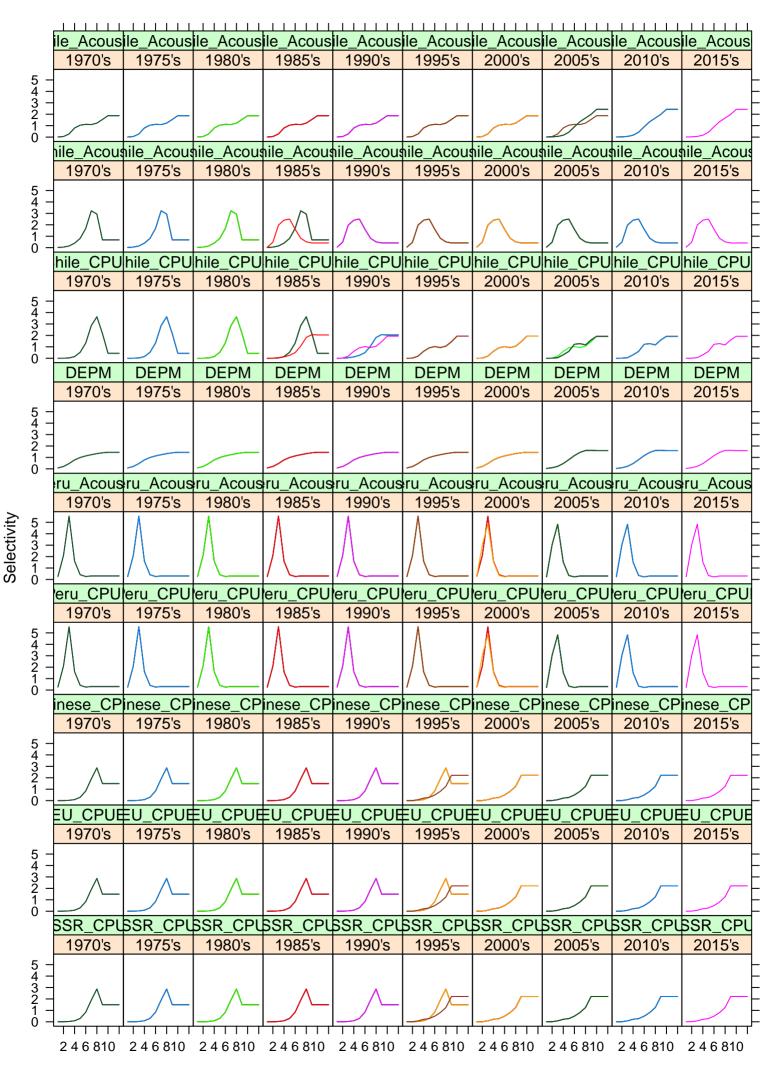


Fleet & Survey sel & F

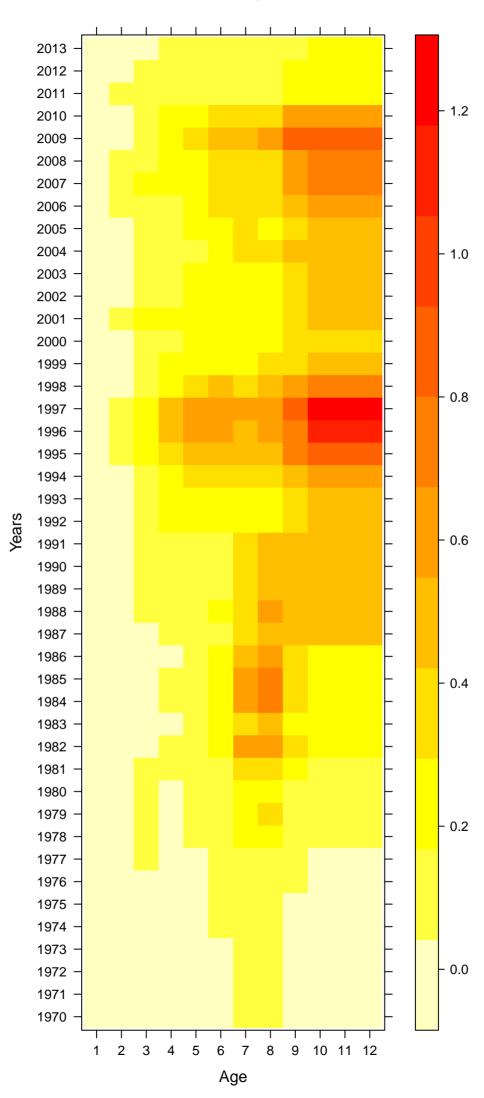
Selectivity of the Fishery by Pentad



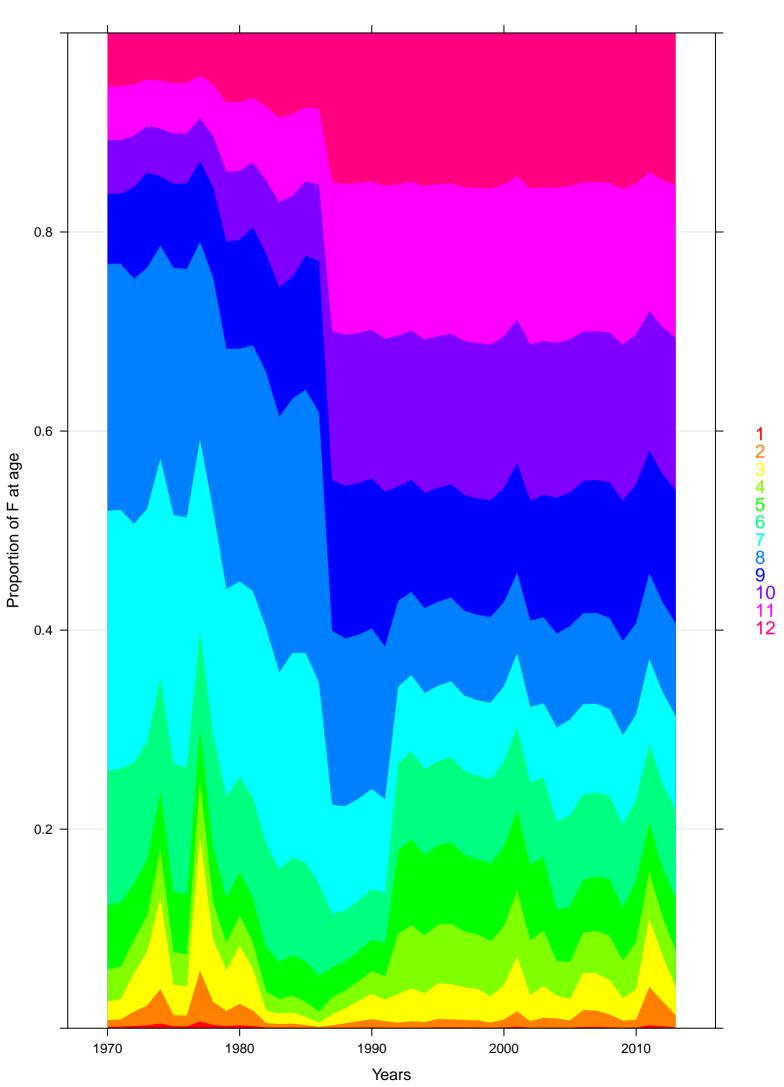
Selectivity of the survey by Pentad

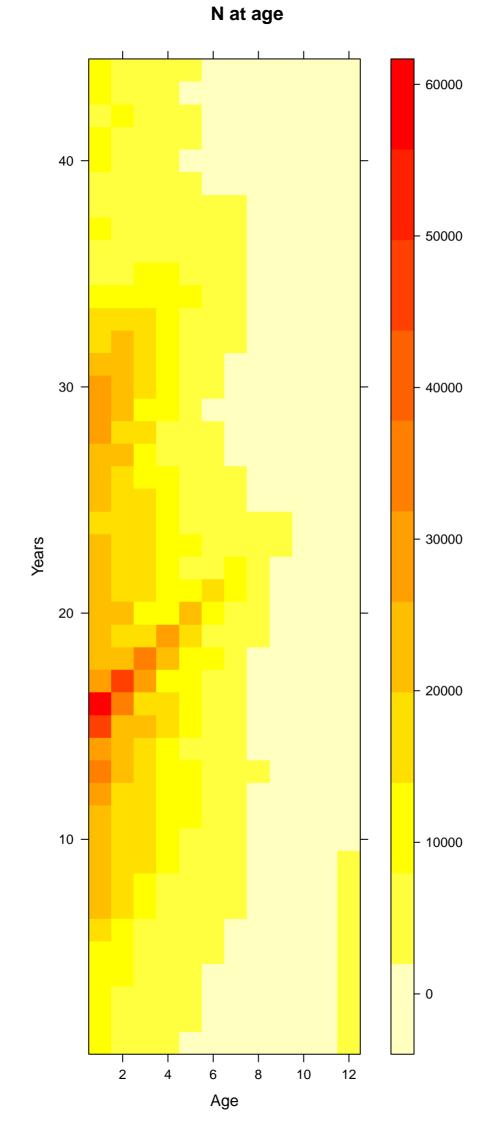


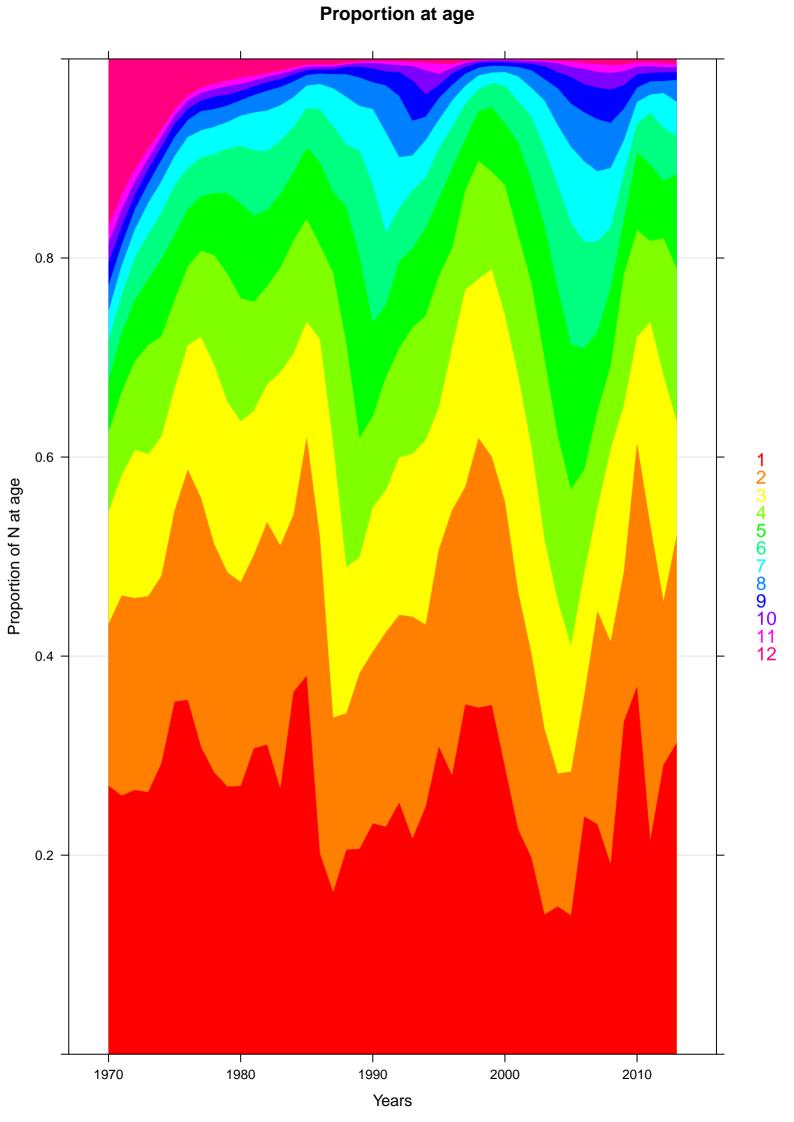






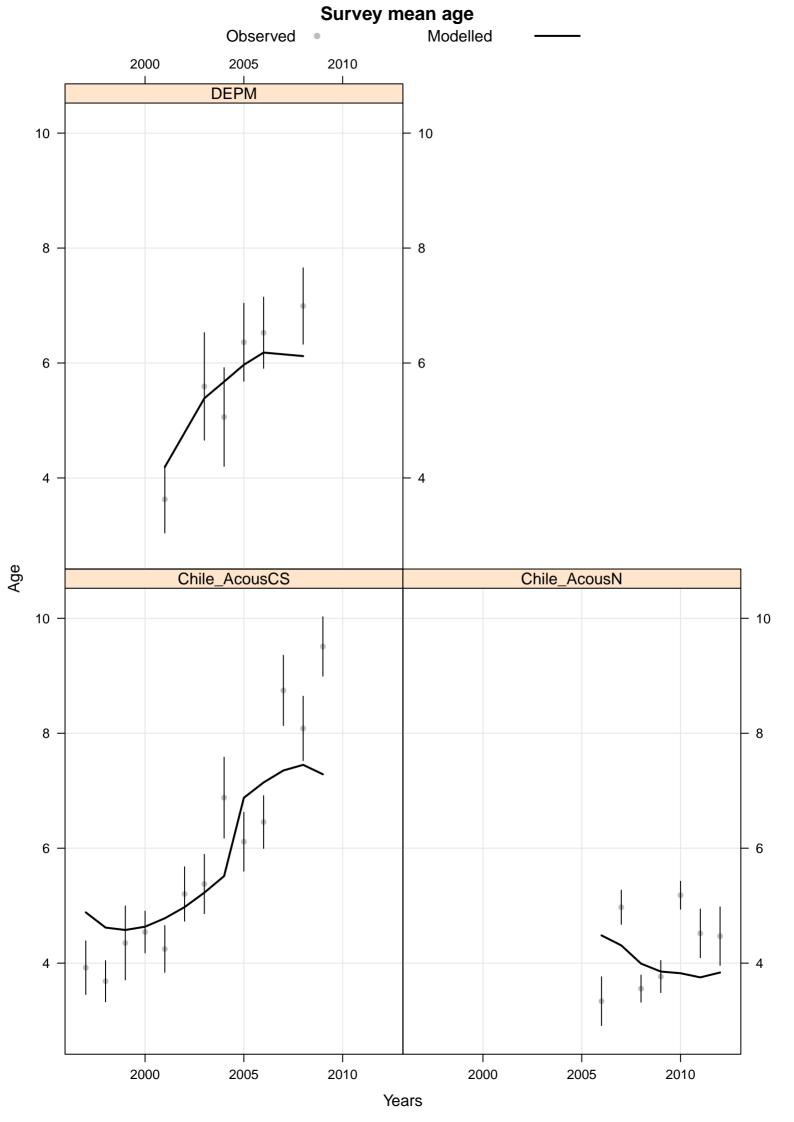






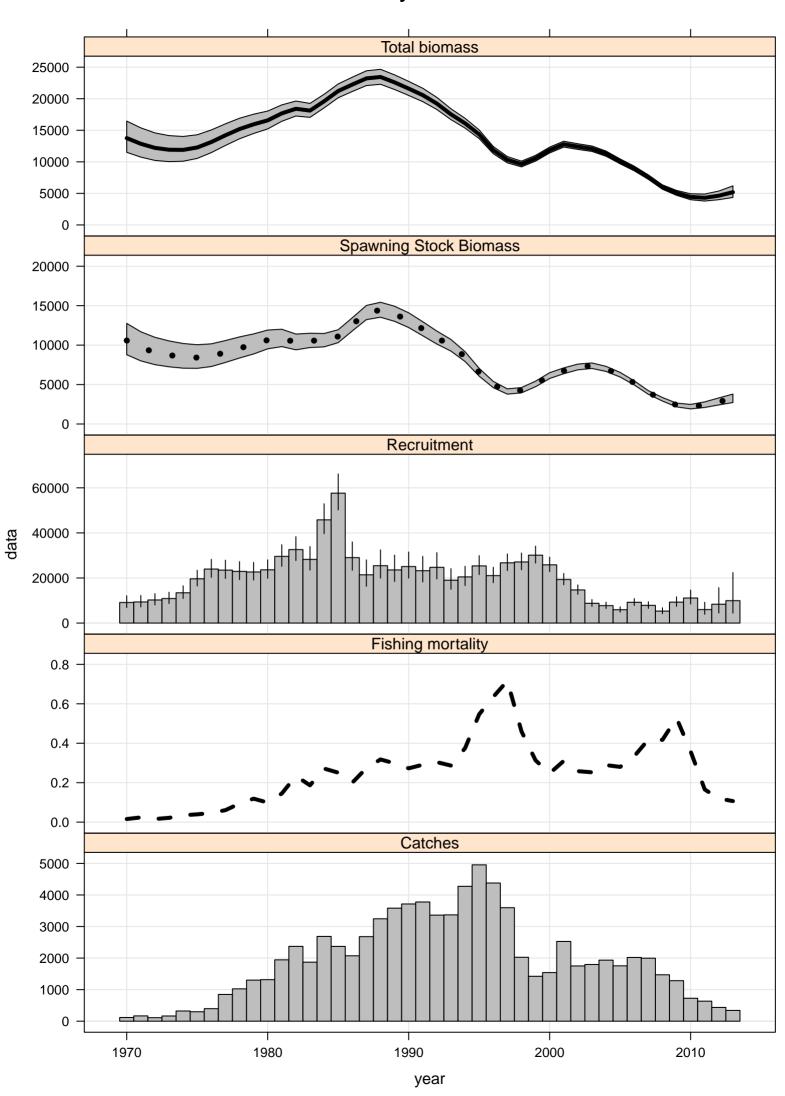
Fishery mean age Modelled Observed SC_Chile_PS - 10 - 8 - 2 Age N_Chile Offshore_Trawl 10 8 6 4 2 1980 1990 2000 2010 Years

Fishery mean length
Modelled Observed FarNorth 35 Length (cm) 30 25 2010 1980 1990 2000 Years



Stock summary

Summary sheet



Uncertainty of key parameters 0.4 -0.3 SSB TSB R \lesssim 0.2 -0.1 -0.0 2010 1960 1970 1980 2000 1990 years

Mature - Immature fish **Immature** Mature 20000 -15000 -Biomass in kt 10000 5000 -0 1990 2010 1970 1980 2000 Years

Fished vs. unfished biomass Fished Unfished 40000 -30000 -Total biomass 20000 -10000 -1970 1980 1990 2000 2010

Years