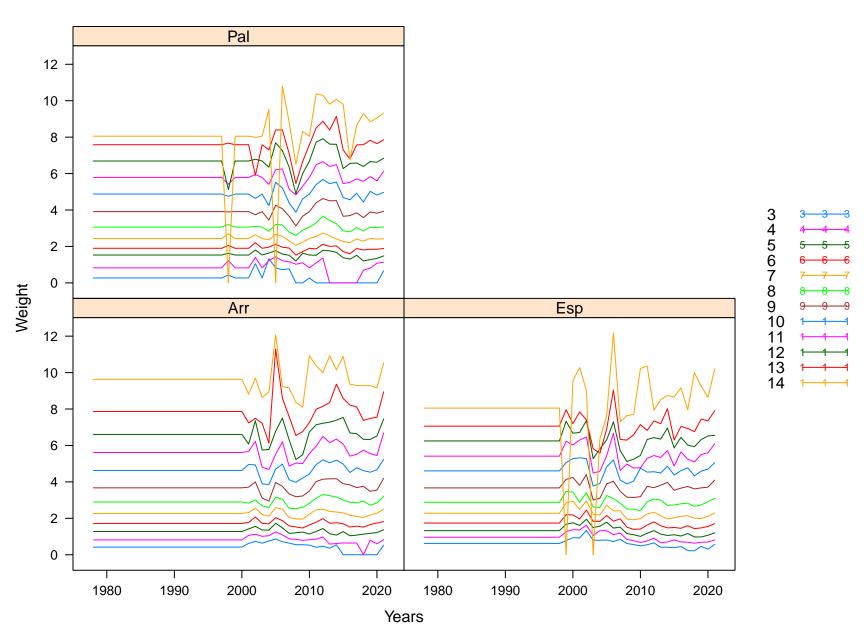
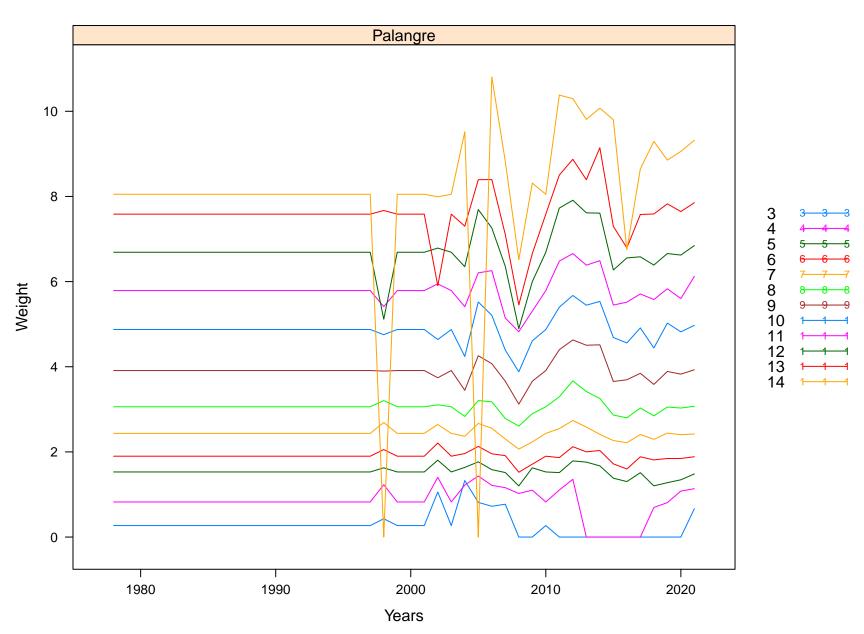
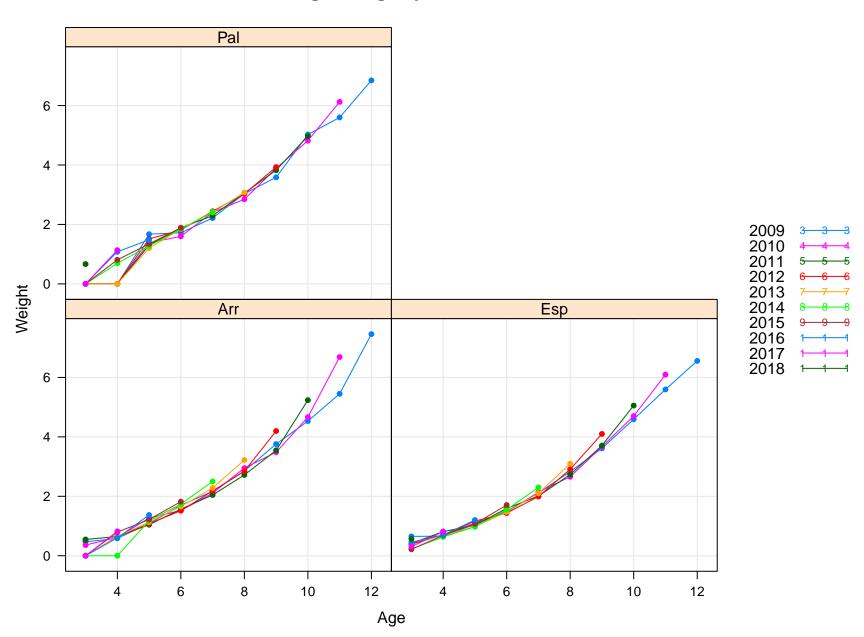
Weight at age in the fishery



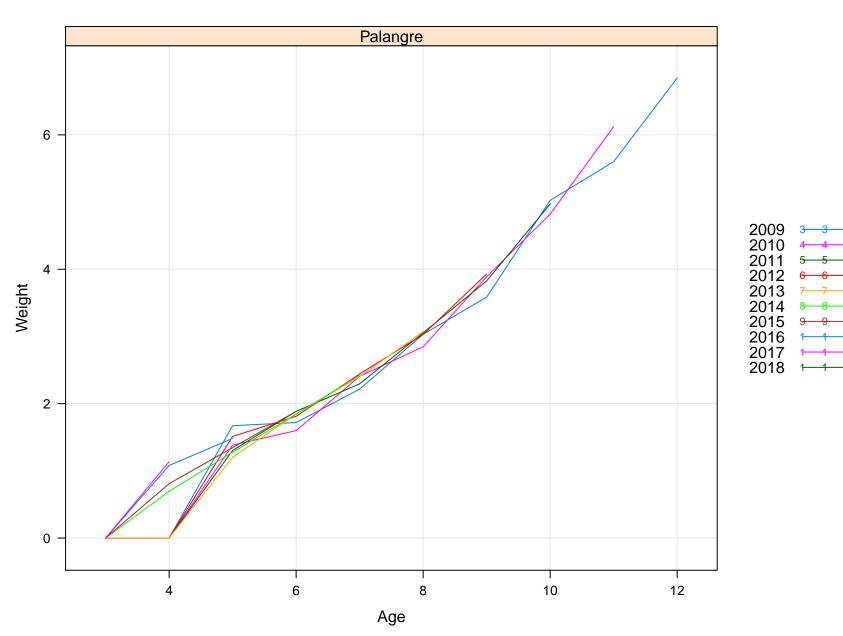
Weight at age in the survey



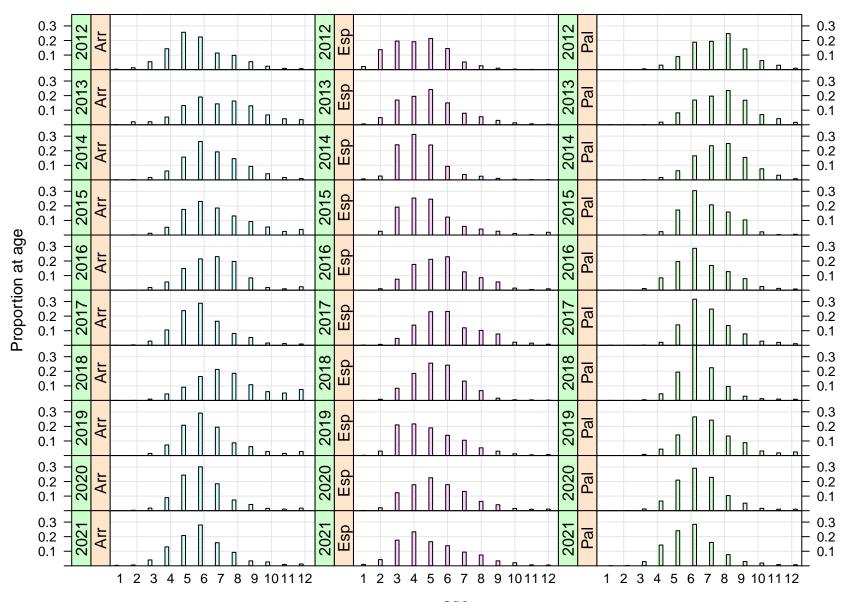
Weight at age by cohort in the fleet



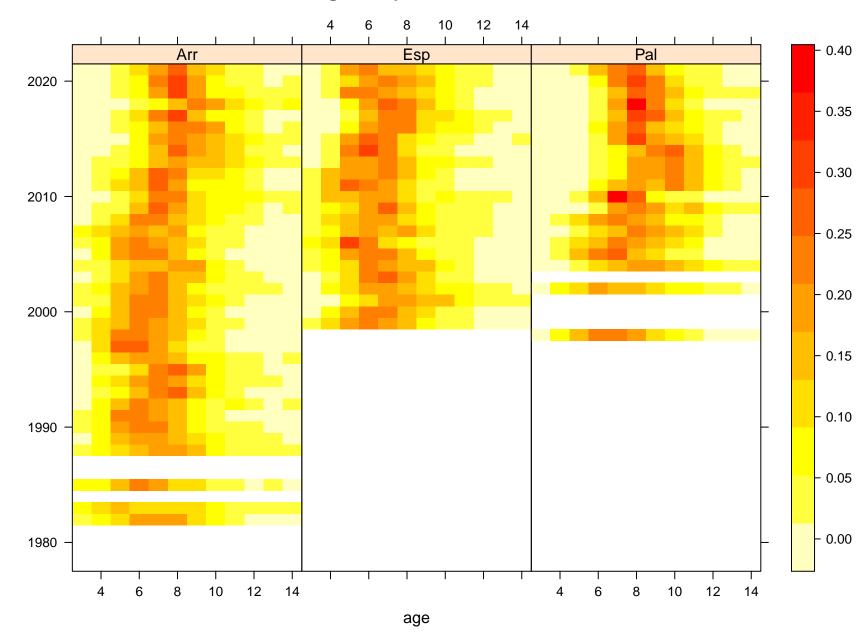
Weight at age by cohort in the survey



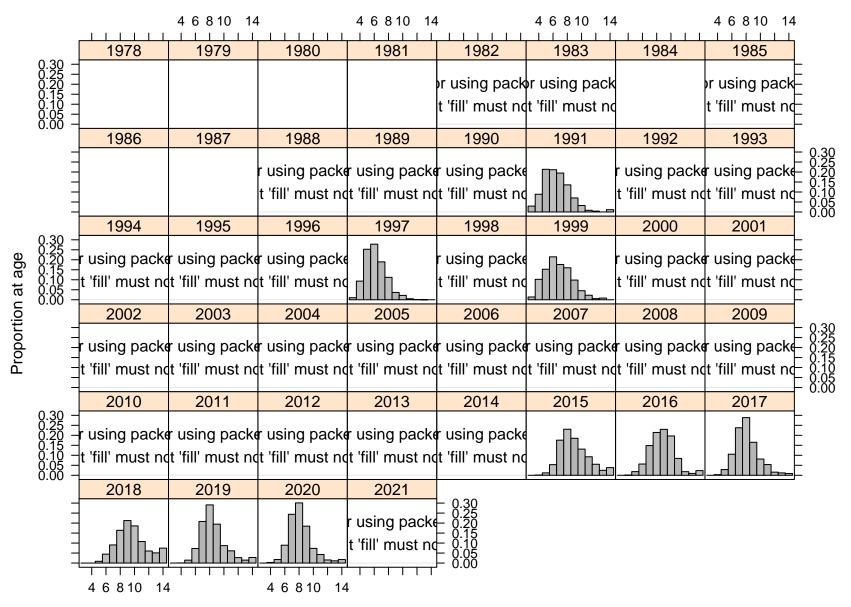
Age composition in fleets



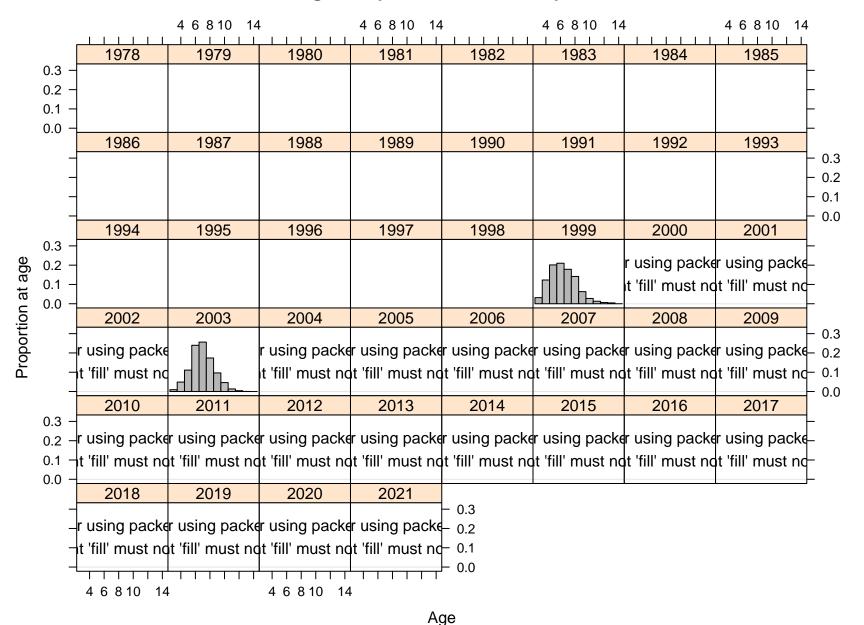
Age composition in fleets



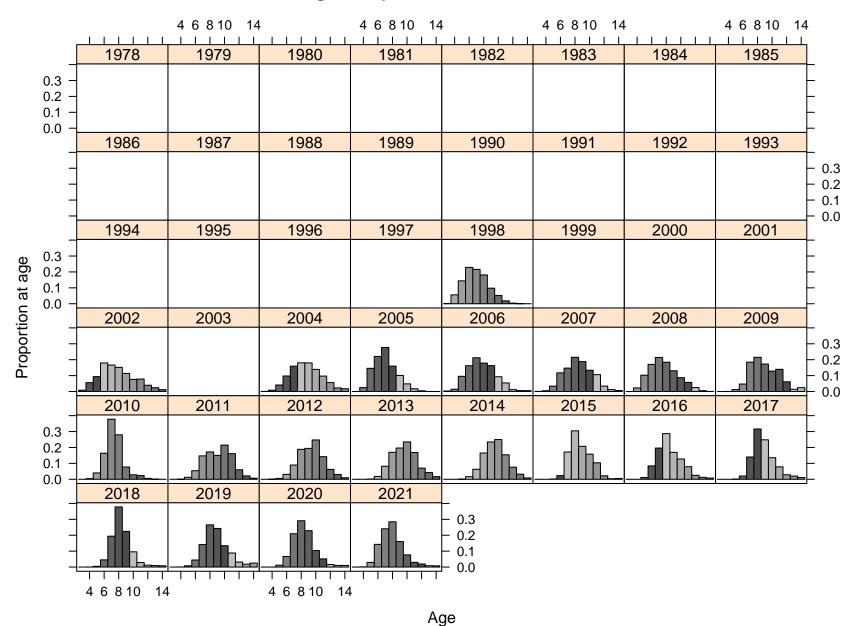
Age composition in fleets Arr



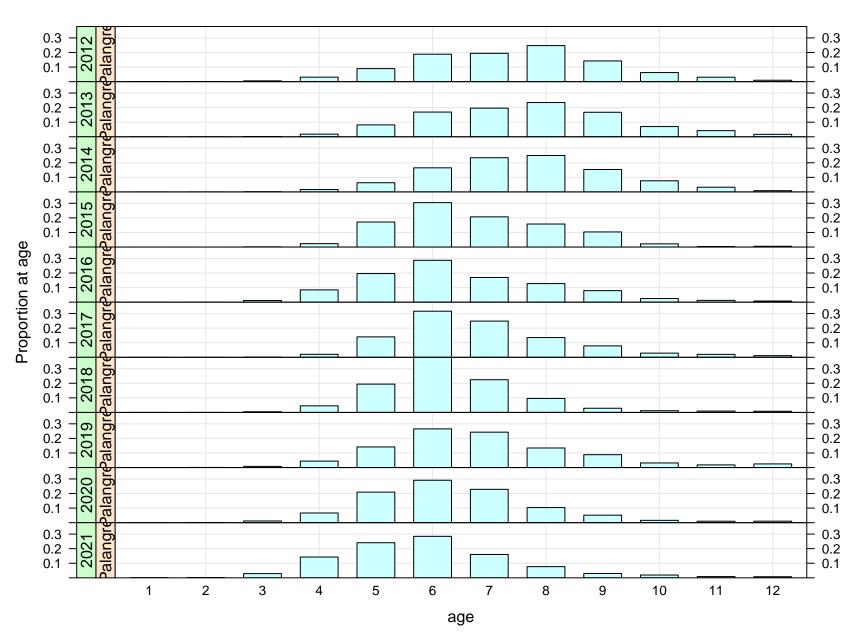
Age composition in fleets Esp



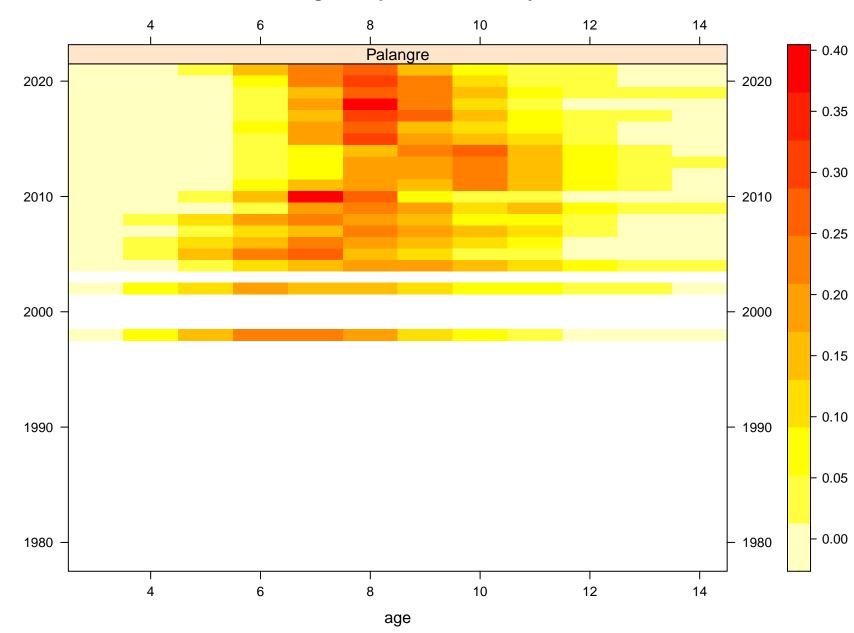
Age composition in fleets Pal



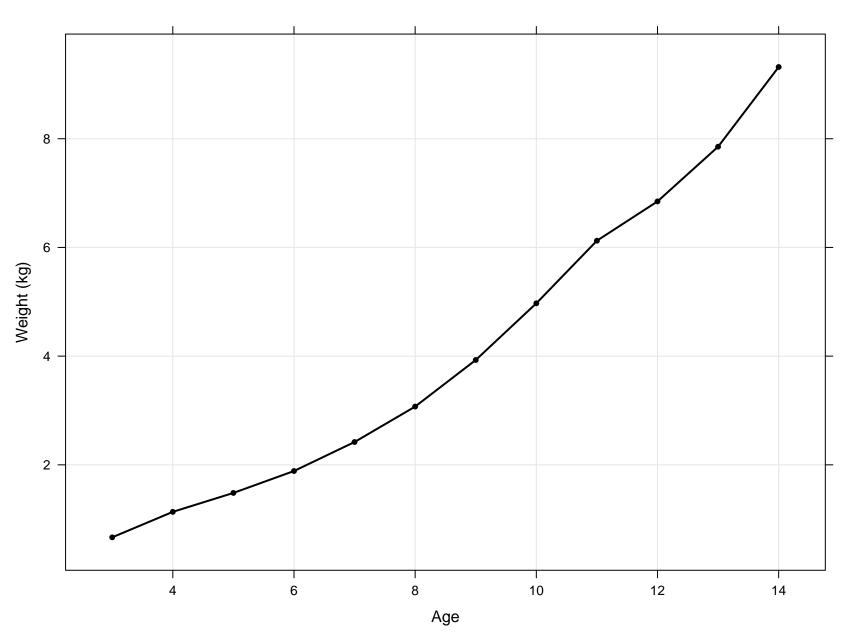
Age composition in surveys



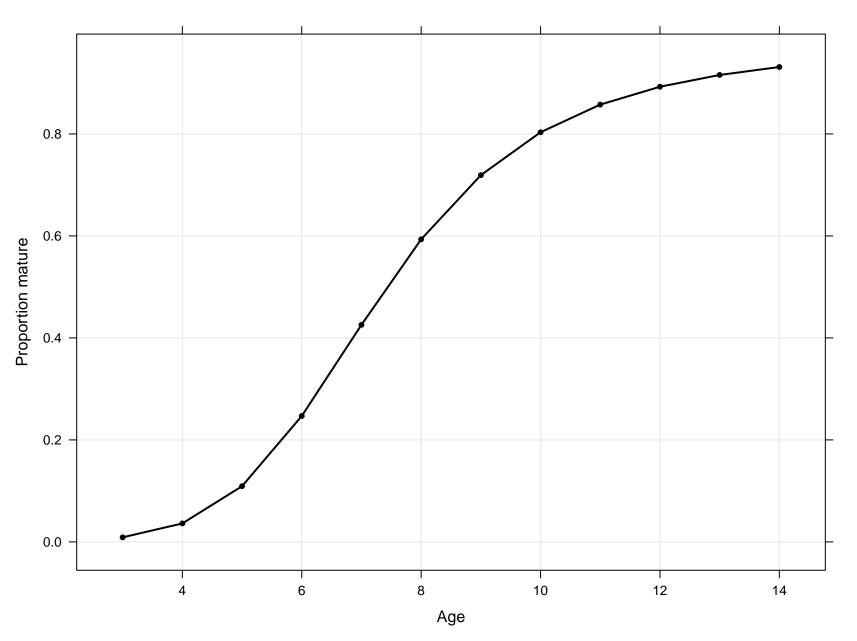
Age composition in surveys



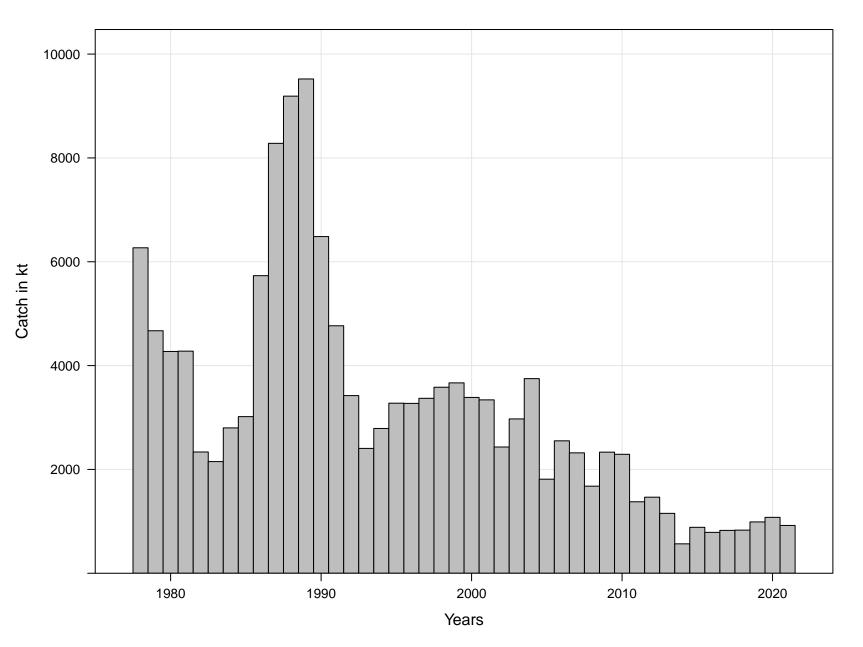
Weight in the stock



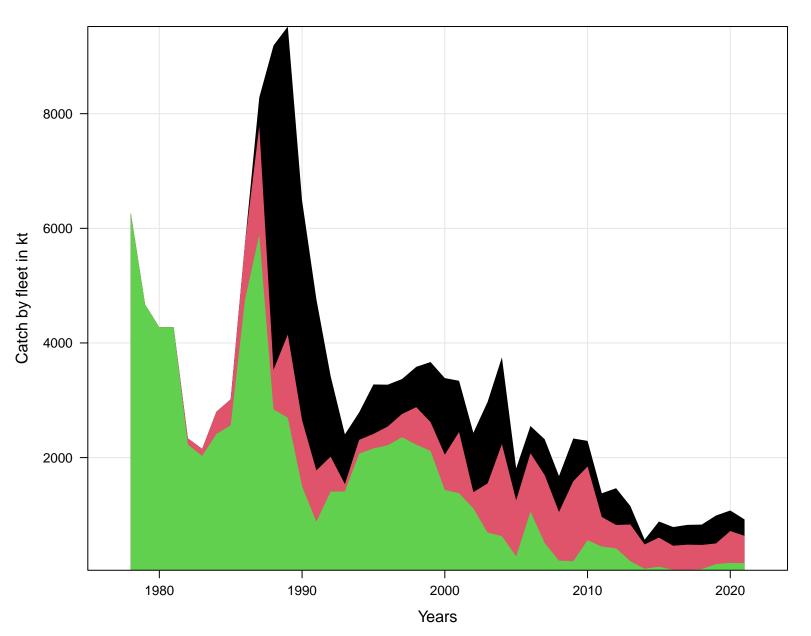
Maturity in the stock



Total catch

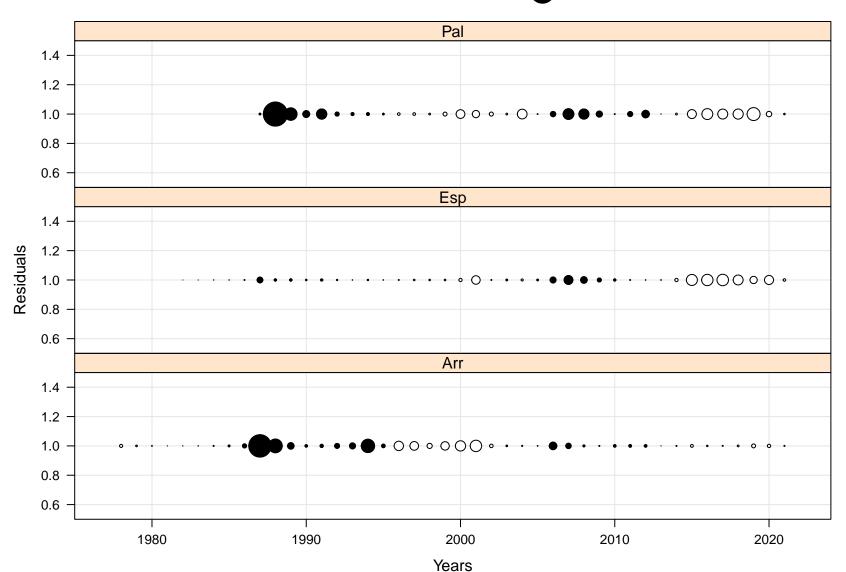


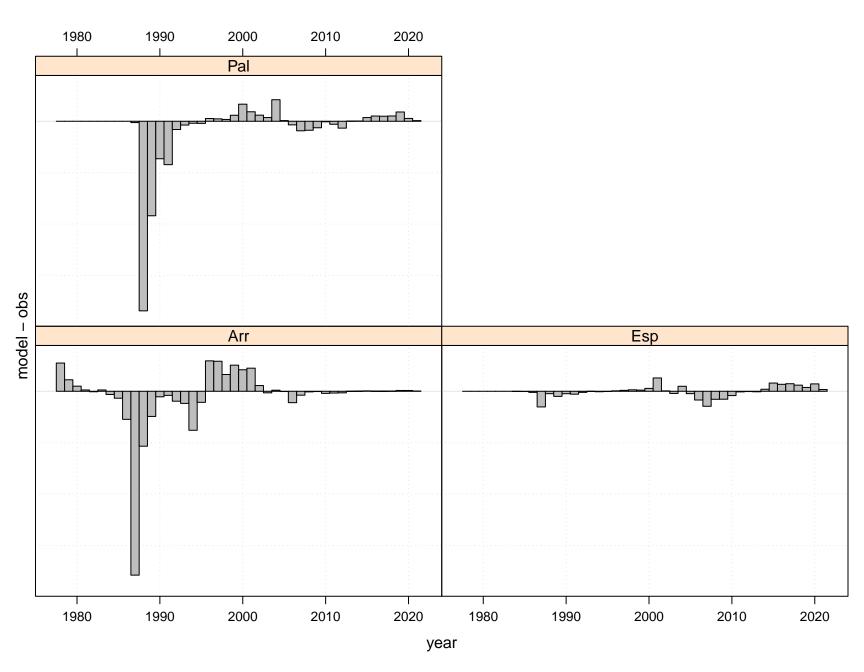
Total catch by fleet

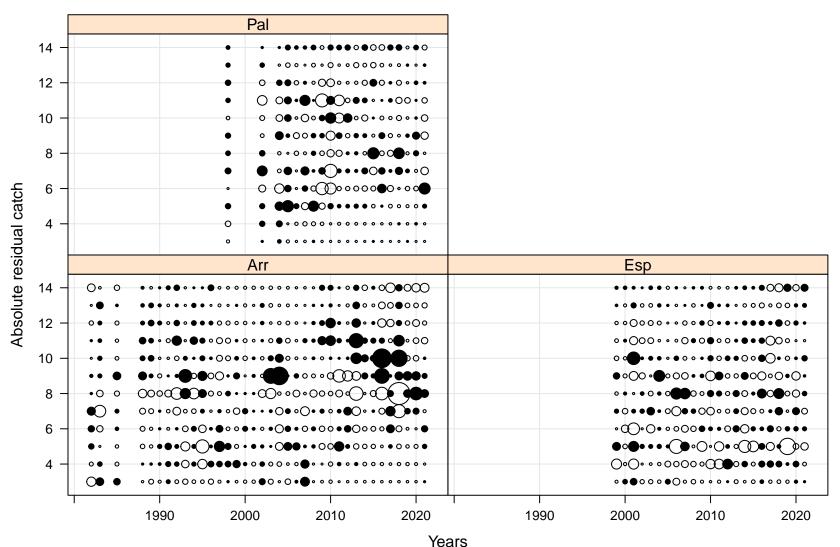


Arr Esp Pal **Catch residuals by fleet**







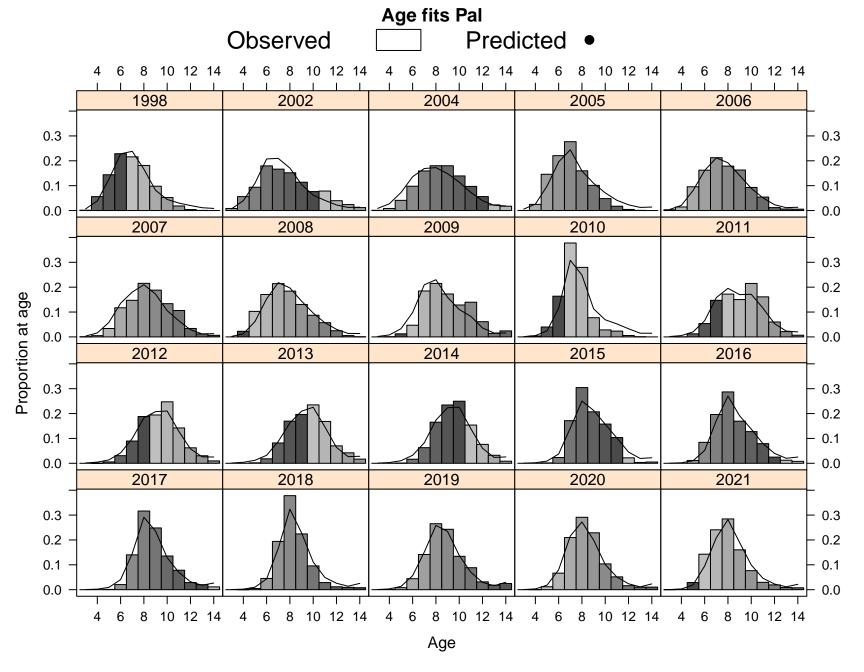


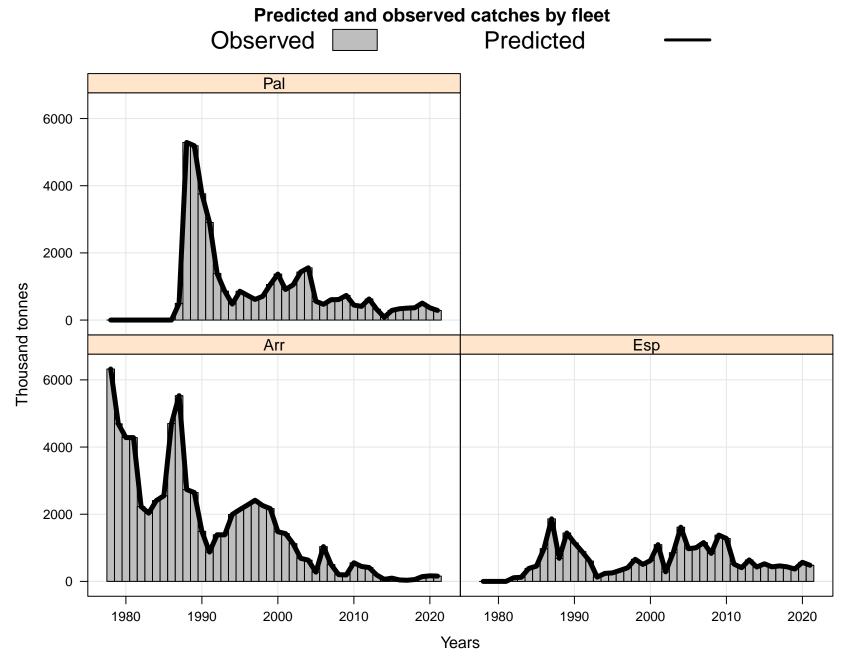
Observed Predicted • 6 8 1 0 14 4 6 8 10 14 4 6 8 10 4 6 8 10 14 4 6 8 10 14 4 6 8 10 14 4 14 4 6 8 10 14 4 6 8 10 14 1982 1983 1985 1988 1989 1990 1991 1992 0.30 0.25 0.20 0.15 0.10 0.05 0.00 0.30 0.25 0.20 0.15 0.10 0.05 0.00 1993 1994 1995 1996 1997 1998 1999 2000 0.30 0.25 0.20 0.15 0.10 0.05 0.00 0.30 0.25 0.20 0.15 0.10 0.05 0.00 Proportion at age 2001 2002 2003 2004 2005 2006 2007 2008 0.30 0.25 0.20 0.15 0.10 0.05 0.00 0.30 0.25 0.20 0.15 0.10 0.05 0.00 2010 2012 2013 2014 2015 2016 2009 2011 0.30 0.25 0.20 0.15 0.10 0.05 0.00 0.30 0.25 0.20 0.15 0.10 0.05 0.00 2017 2018 2019 2020 2021 0.30 0.25 0.20 0.15 0.10 0.05 0.00 0.30 0.25 0.20 0.15 0.10 0.00 4 6 8 10 14 4 6 8 10 14 4 6 8 10 6 8 10 14 4 6 8 10 14 4 14

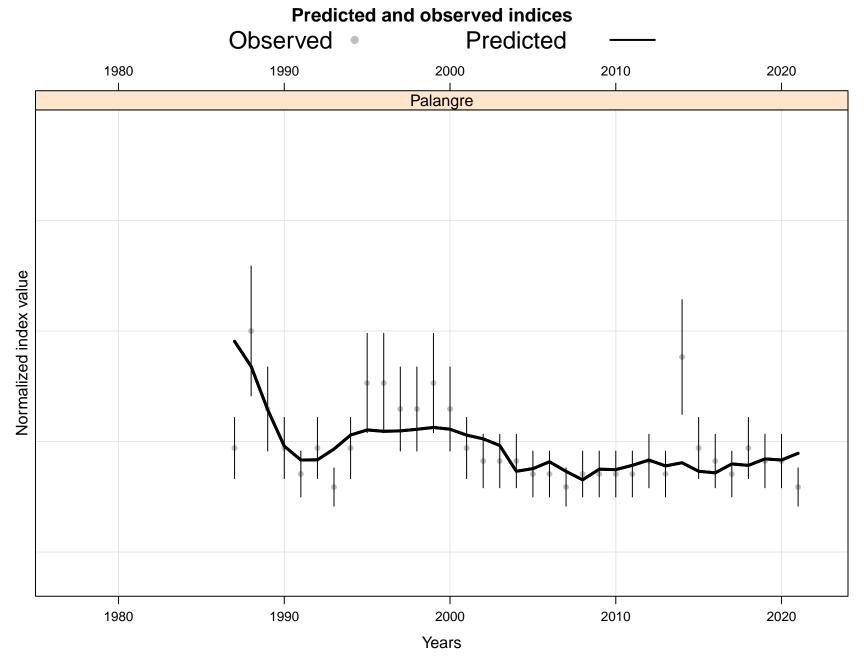
Age

Age fits Arr

Age fits Esp Observed Predicted 4 6 8 10 12 14 8 10 12 14 8 10 12 14 8 10 12 14 8 10 12 14 6 8 10 12 14 1999 2000 2001 2002 2003 2004 0.3 0.3 0.2 - 0.2 - 0.1 0.1 0.0 0.0 2005 2006 2007 2008 2009 2010 0.3 0.3 0.2 0.2 Proportion at age 0.1 0.1 0.0 - 0.0 2011 2012 2013 2014 2015 2016 0.3 - 0.3 0.2 - 0.2 - 0.1 0.1 0.0 0.0 2017 2018 2019 2020 2021 0.3 0.3 0.2 0.2 0.1 - 0.1 0.0 0.0 8 10 12 14 6 10 12 14 8 10 12 14 8 10 12 14 6 8 10 12 14 8 6 Age

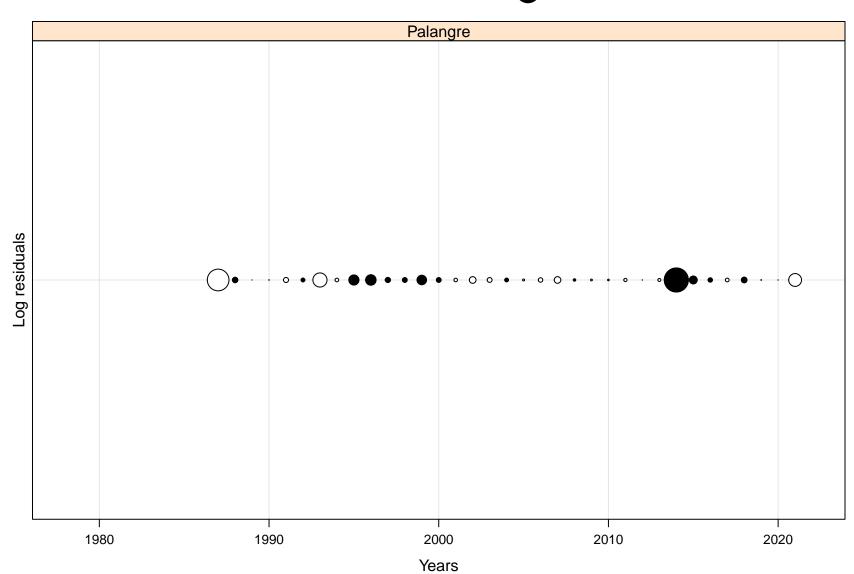




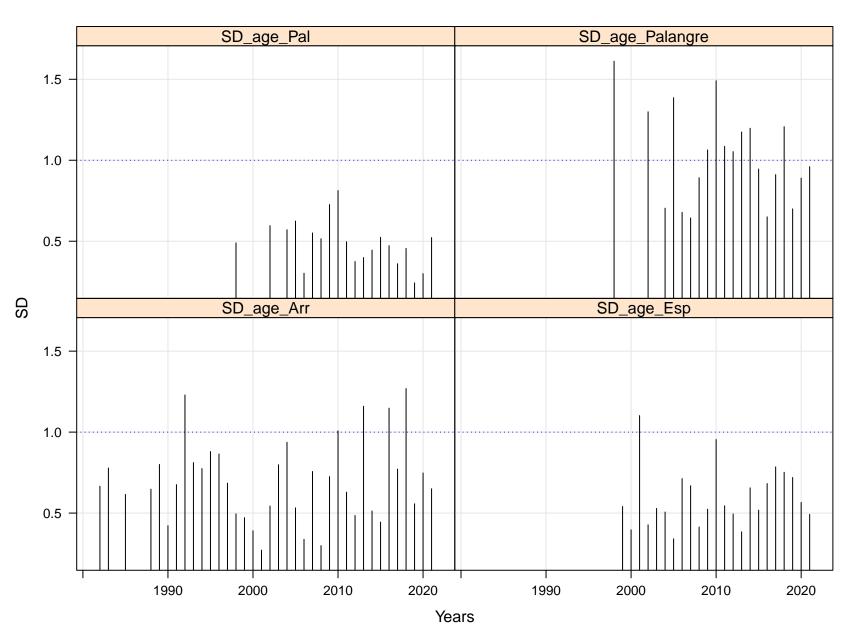


Age fits Palangre Observed Predicted 8 10 12 14 6 8 10 12 14 10 12 14 10 12 14 6 8 10 12 14 1998 2002 2004 2005 2006 0.3 - 0.3 0.2 0.2 0.1 0.1 0.0 0.0 2010 2007 2008 2009 2011 0.3 - 0.3 0.2 - 0.2 Proportion at age 0.1 0.1 0.0 - 0.0 2012 2013 2014 2015 2016 0.3 0.3 0.2 0.2 0.1 0.1 0.0 - 0.0 2017 2018 2019 2020 2021 0.3 0.3 0.2 0.2 0.1 0.1 0.0 0.0 10 12 14 6 8 10 12 14 6 8 10 12 14 10 12 14 4 6 8 10 12 14 4 Age

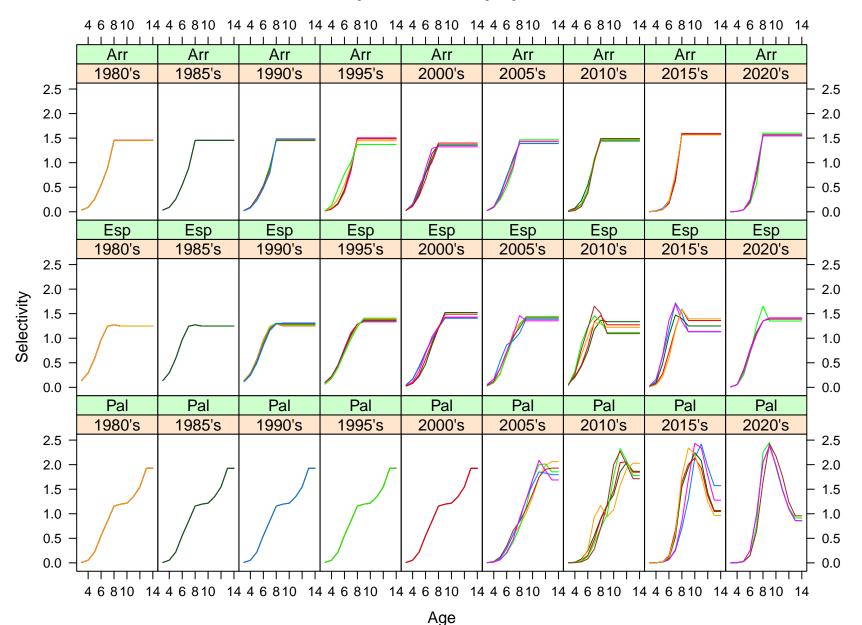
Standardized survey residuals



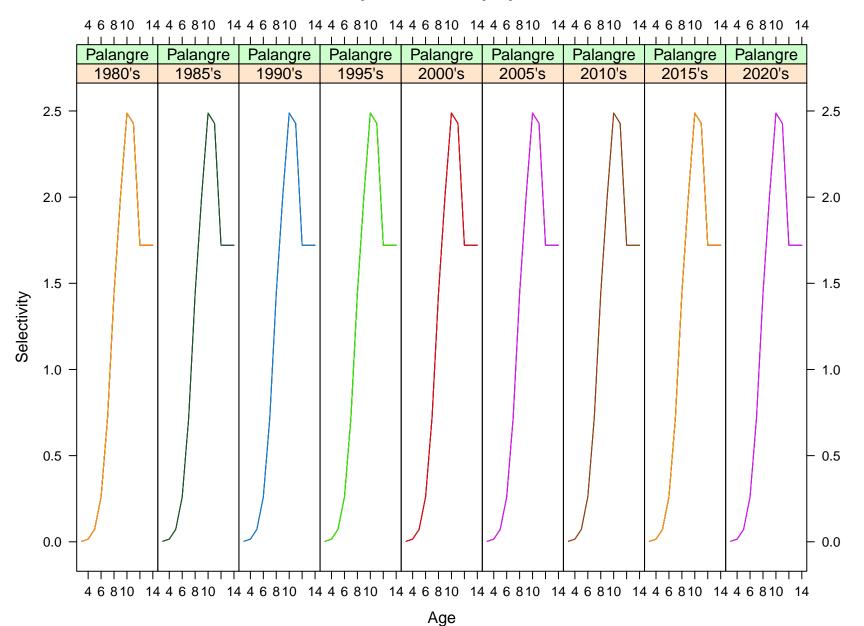
SD per input series



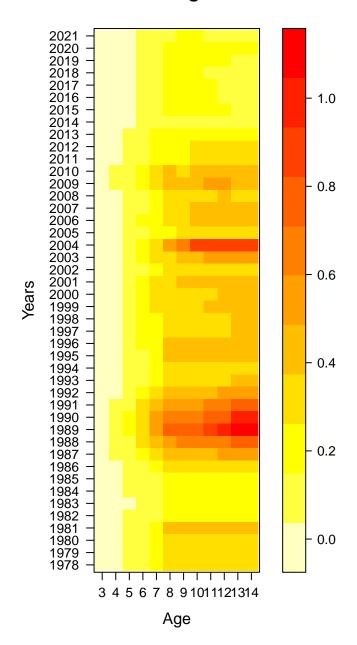
Selectivity of the Fishery by Pentad



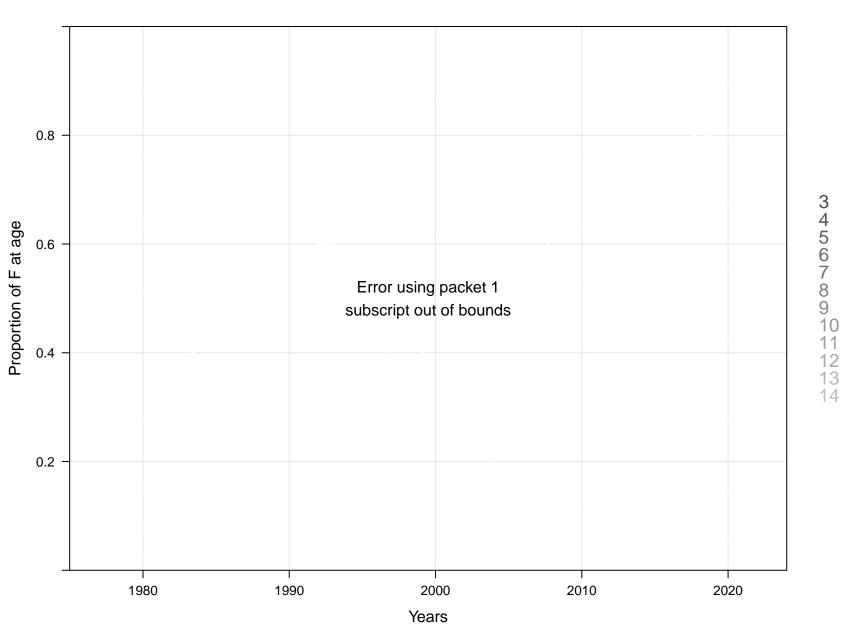
Selectivity of the survey by Pentad



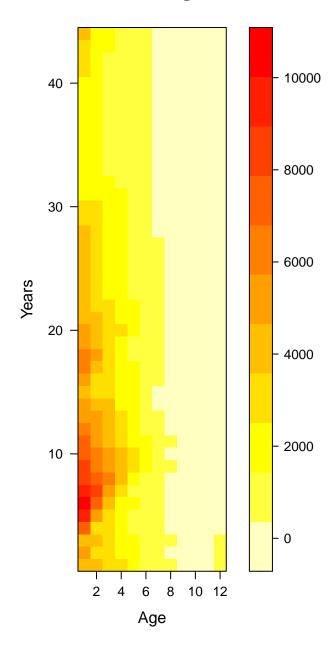
F at age



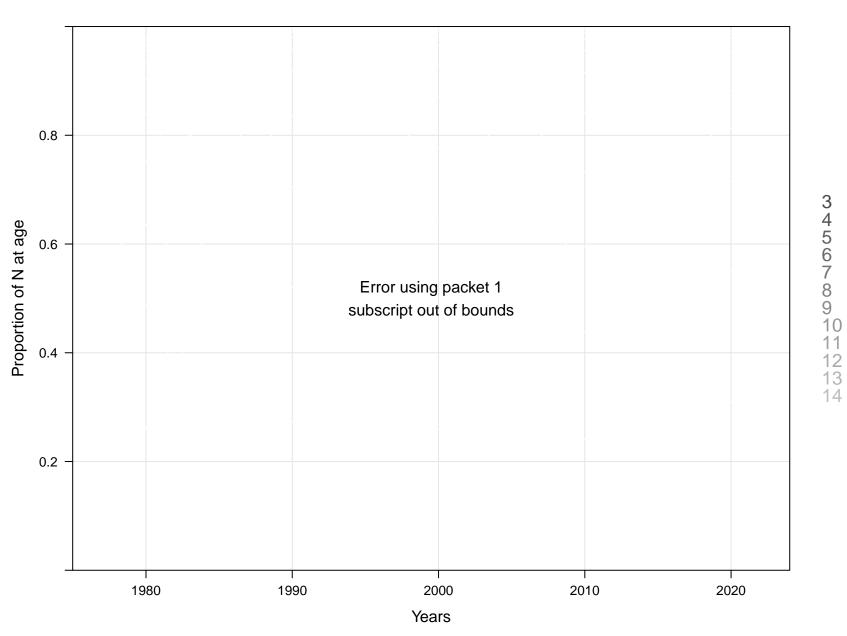
F proportion at age





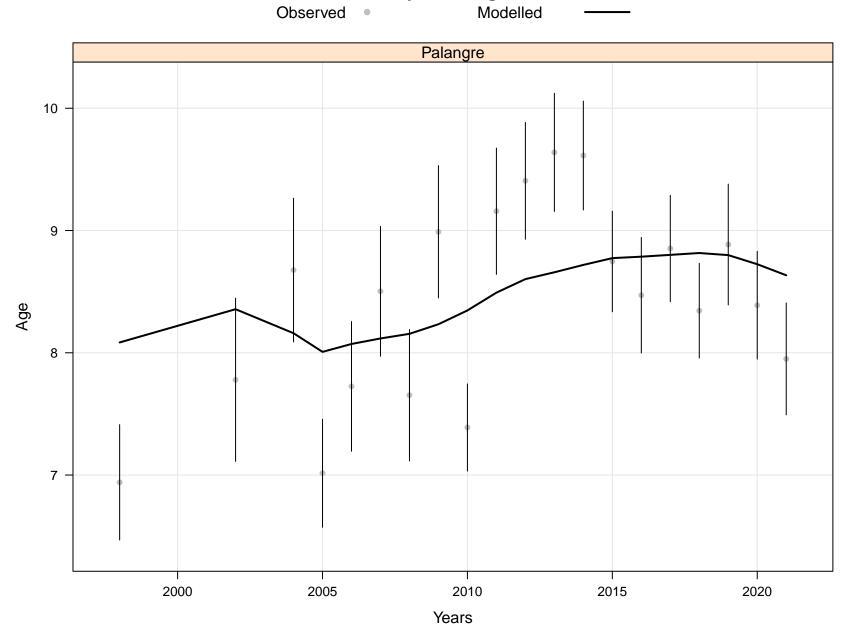


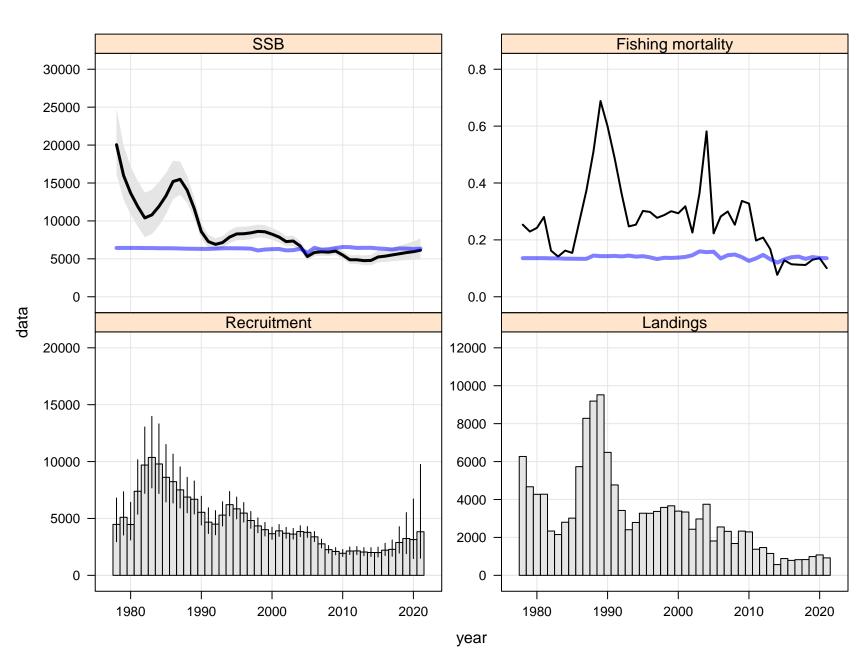
Proportion at age

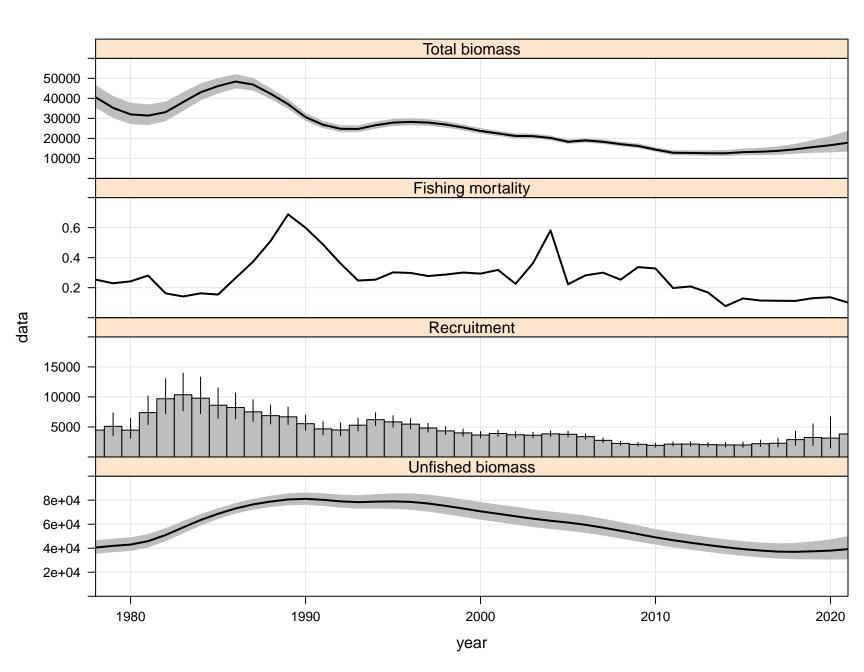


Fishery mean age Modelled Observed Pal 7 -Age Arr Esp Years

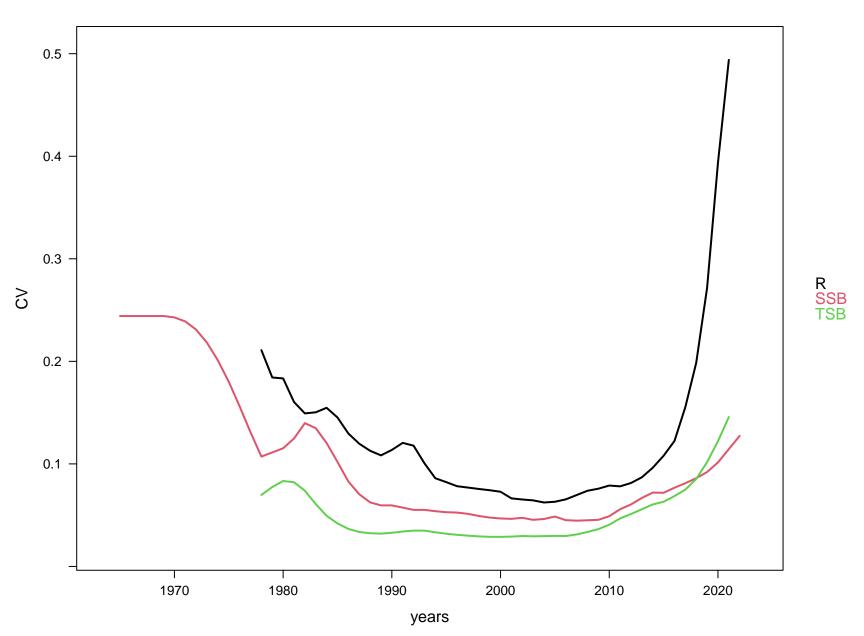
Survey mean age





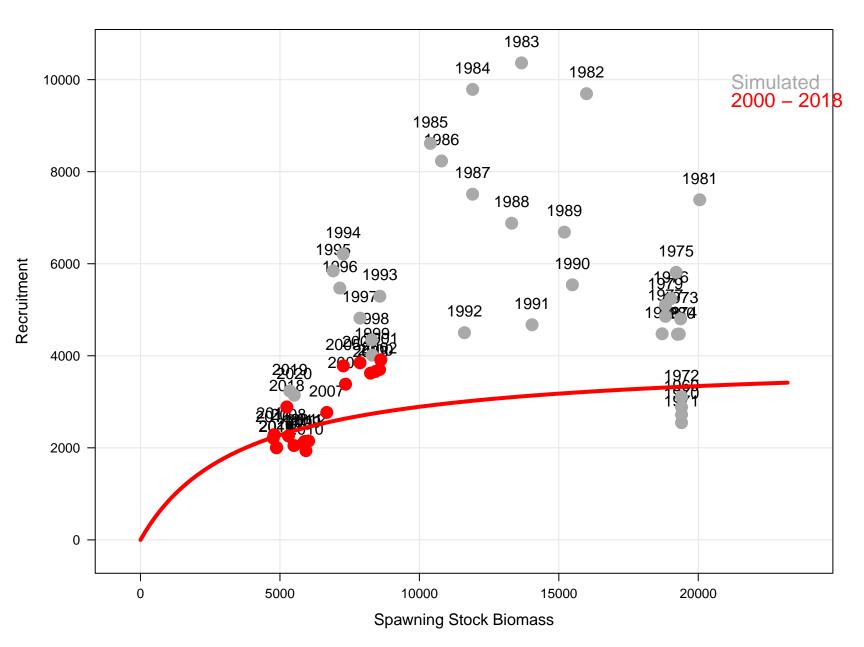


Uncertainty of key parameters



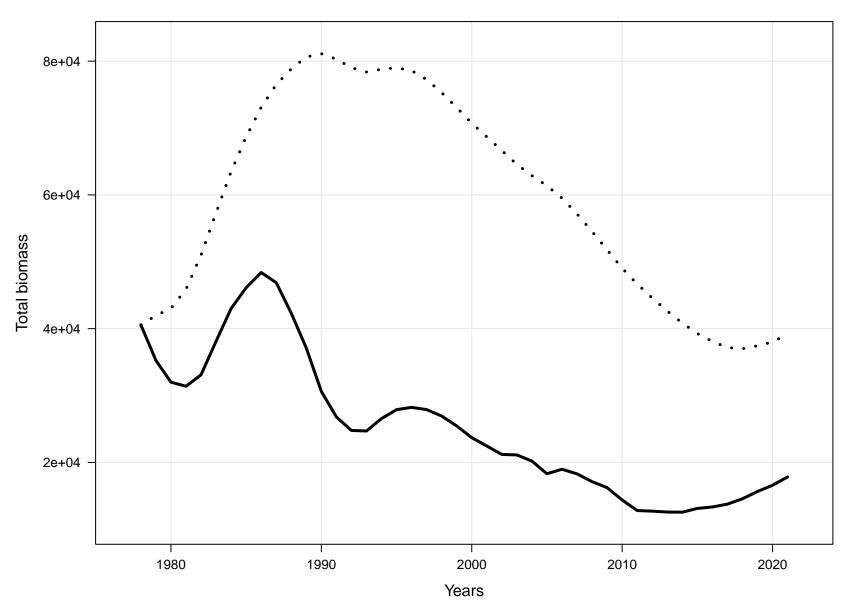
Mature - Immature fish Mature Immature 30000 -25000 -Biomass in kt 20000 -15000 -10000 -5000 -1990 2010 2020 1980 2000 Years

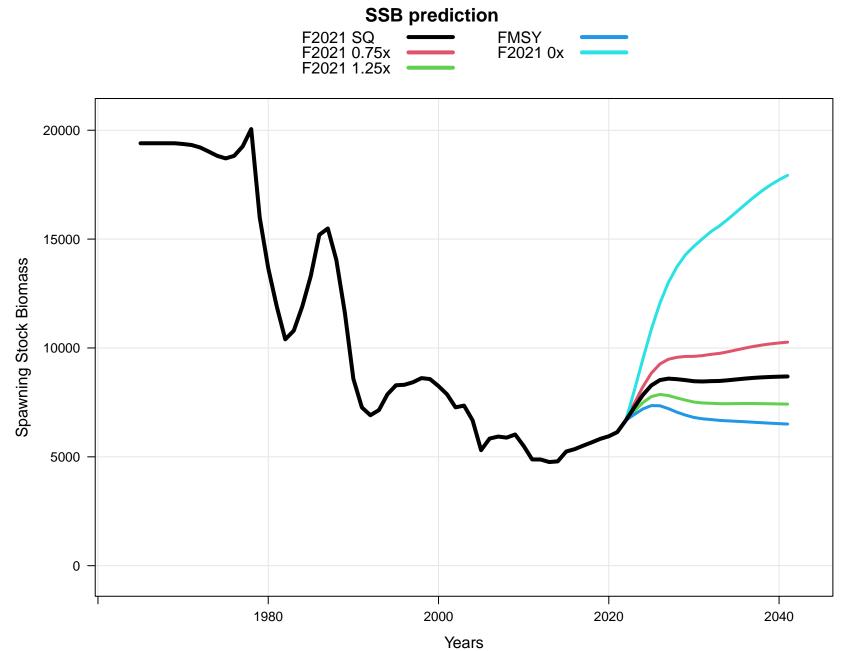
Stock Recruitment



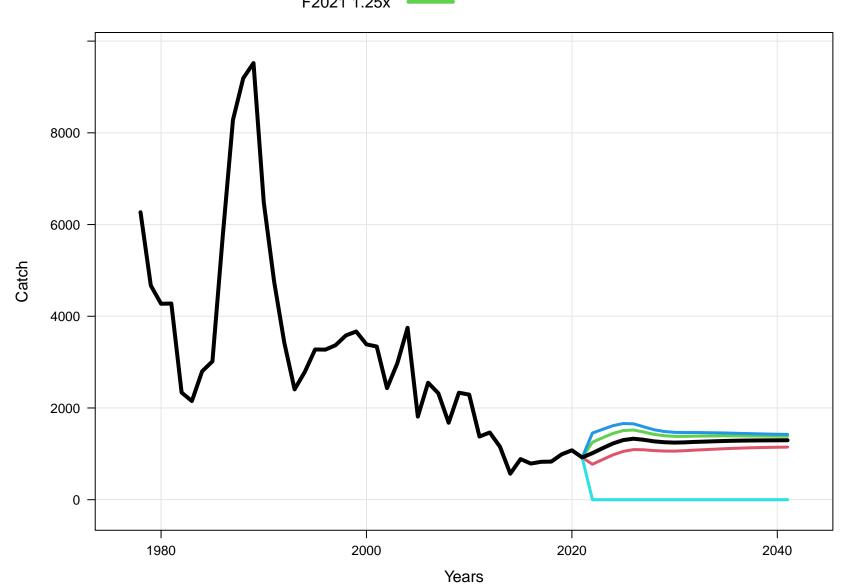
Comparing fished with unfished biomass

Fished — Unfished ·····

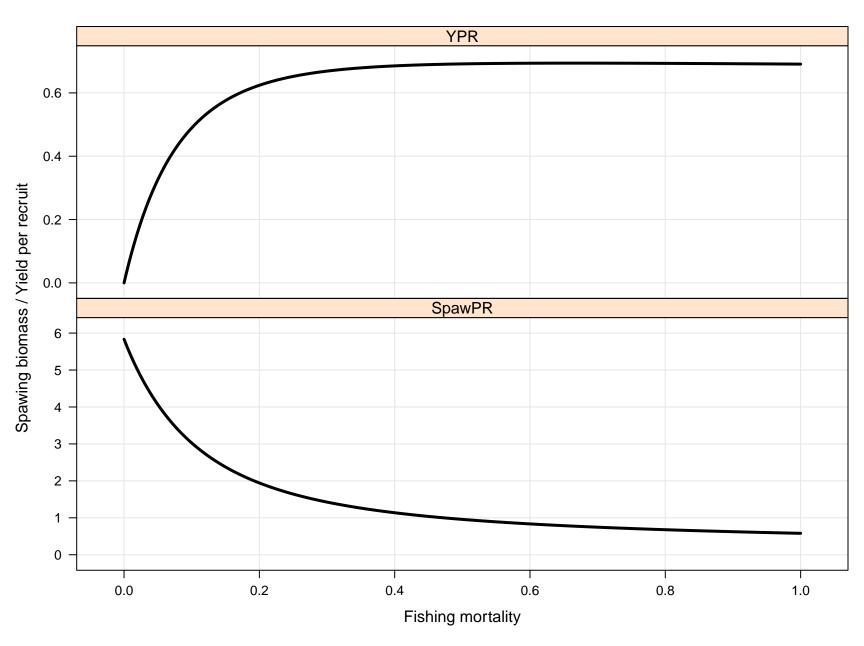




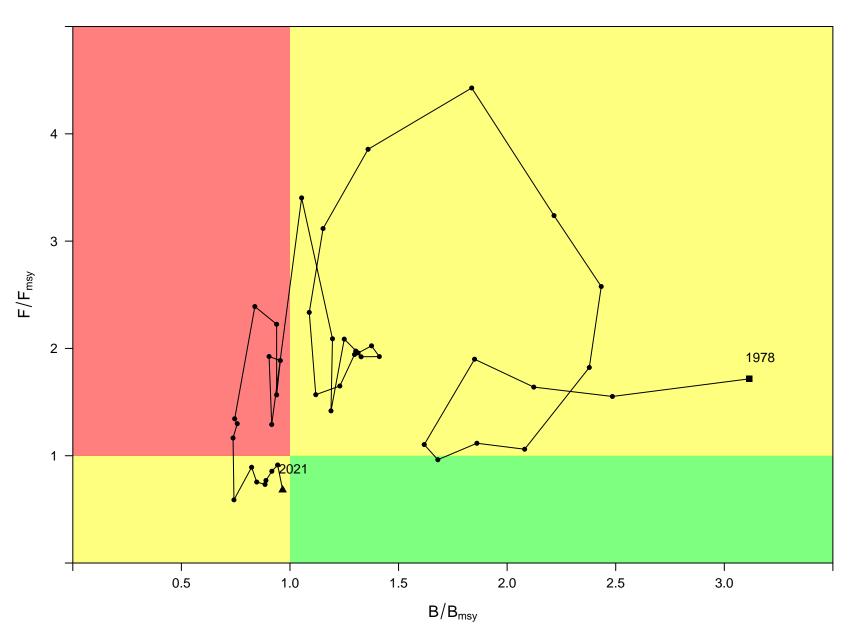


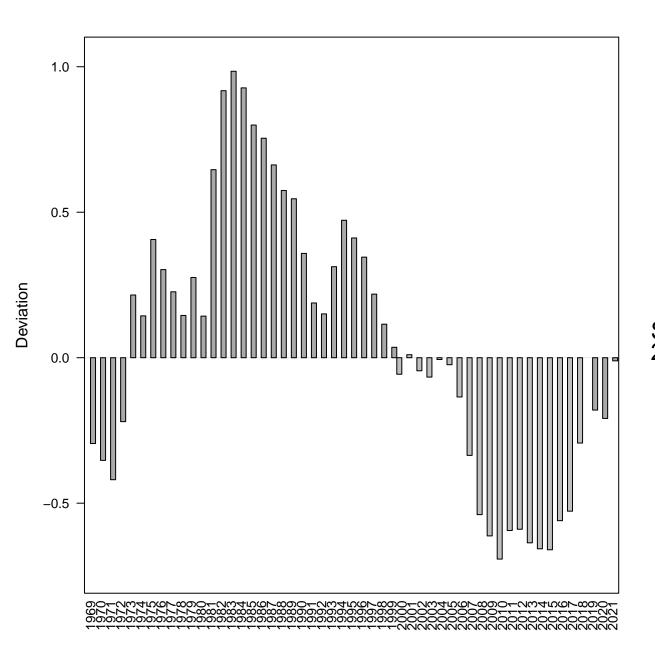


Yield and spawing stock biomass per recruit



Kobe plot





Simulated 2000 – 2018

