

# Gmacs & BBRKC

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# What's New?

- N-year projections (i.e. 1-year projection used for calculating Tier 3 or 4 OFLs)
- SPR/OFL/ABC calculations (Tier 3)
- Francis iterative weighting (Francis 2011)
- Different phases for "rec\_ini" and "rec\_dev"
- Small bycatches
- Custom transition matrix option
  - Can specify if it is a growth matrix or a transition matrix

# What's New?

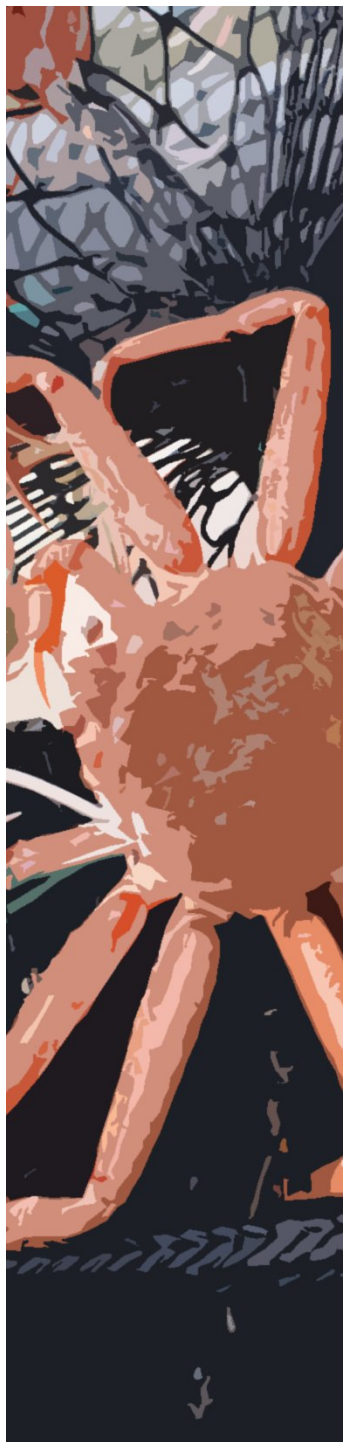
- Time-varying season length permanent
- More work on .Rmd documentation (for SMBKC but this work can be borrowed for other stocks)
  - Automatically import model output/tables
- SMBKC Assessment

# Coming Soon

- Changes to selectivity again
- R Shiny application for developing them
  - The '.dat' and '.ctl' input files are becoming more complex
- BBRKC

# Changing Selectivity Controls ... yet again

- Specify number of selectivity curves and type (i.e. parameter per size, logistic, dome-shaped)
- For the parameters of each curve specify initial values, priors, bounds, phase
- Then map each gear/sex/time-period to the desired selectivity
  
- This allows any combination of selectivity you could want (e.g. from 1975-1981 use selectivity 1, then from 1982-2000 use selectivity 2, then from 2001-present use selectivity 1 again, or mix up by sex, or even condition)
- This is happening on a new branch and will be merged when complete



# BBRKC

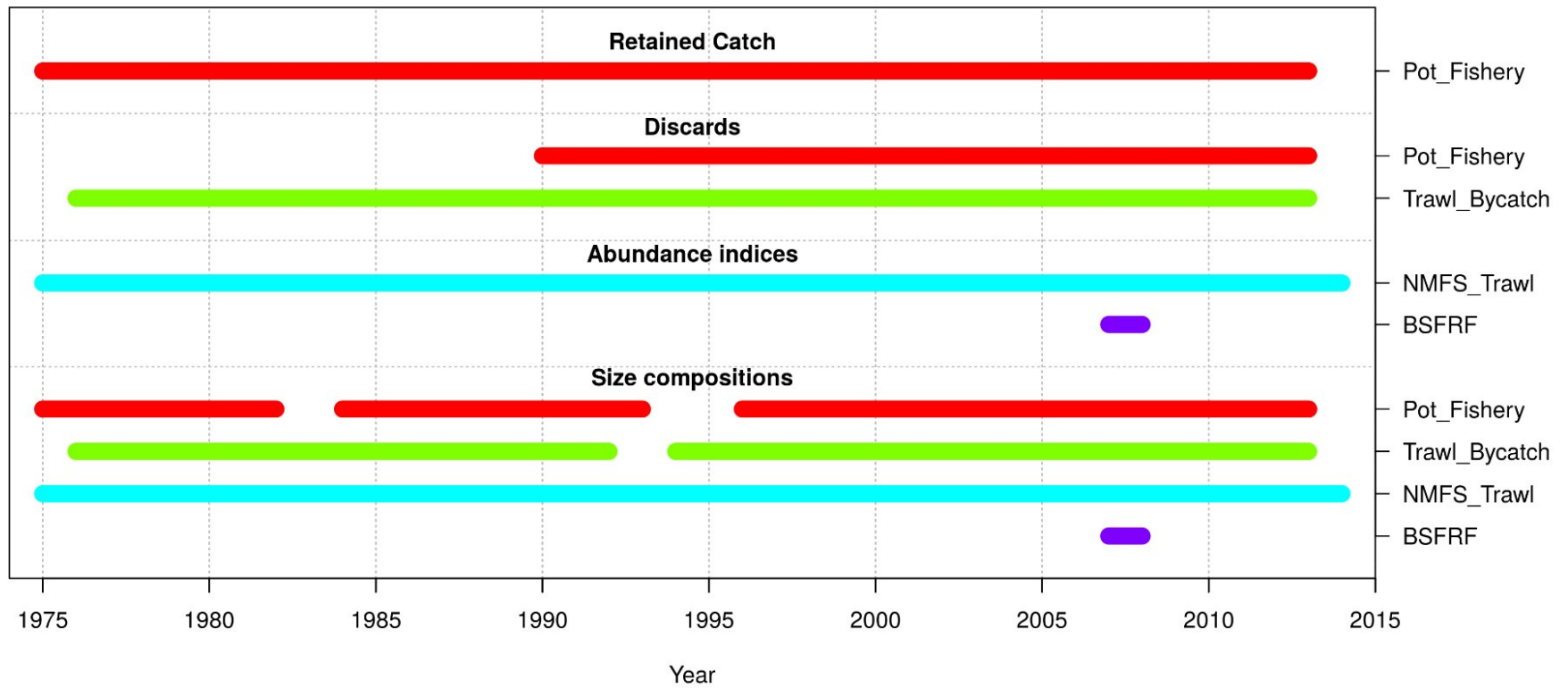
Progress so far

# Summary

- Working on single sex model at the moment
- Poor fits so far, but still early days
- To do
  - Get latest data
  - Add extra time-varying code to Gmacs (molting, growth, and maturity)

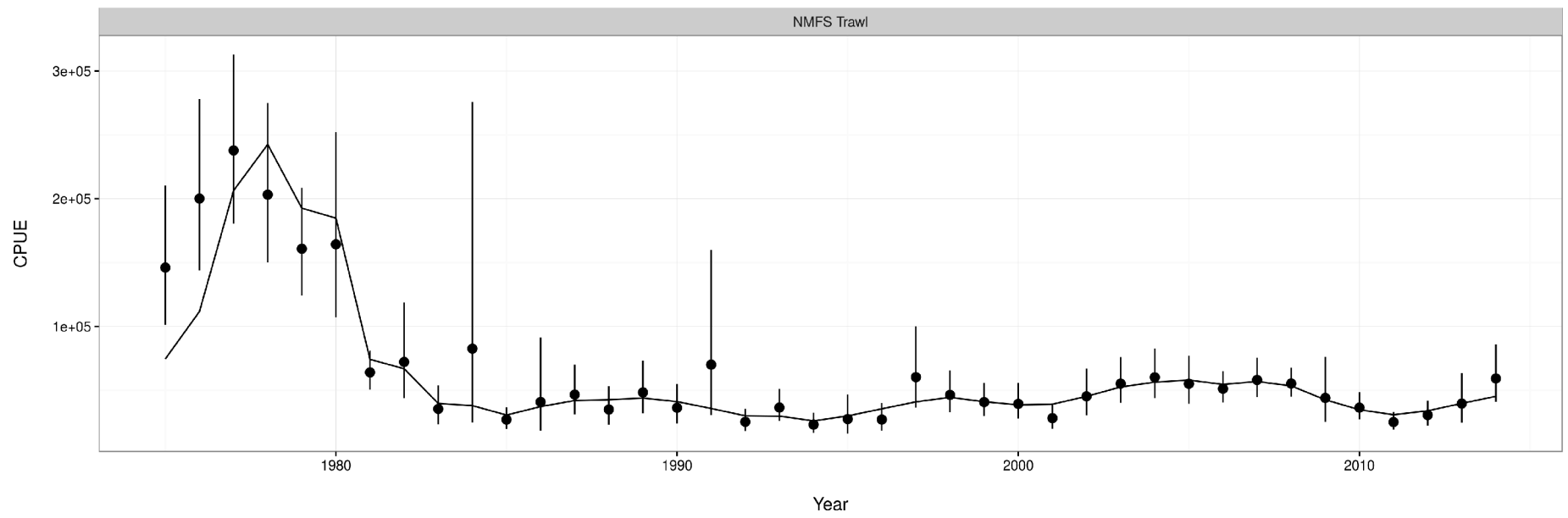
# Data

Data by type and year

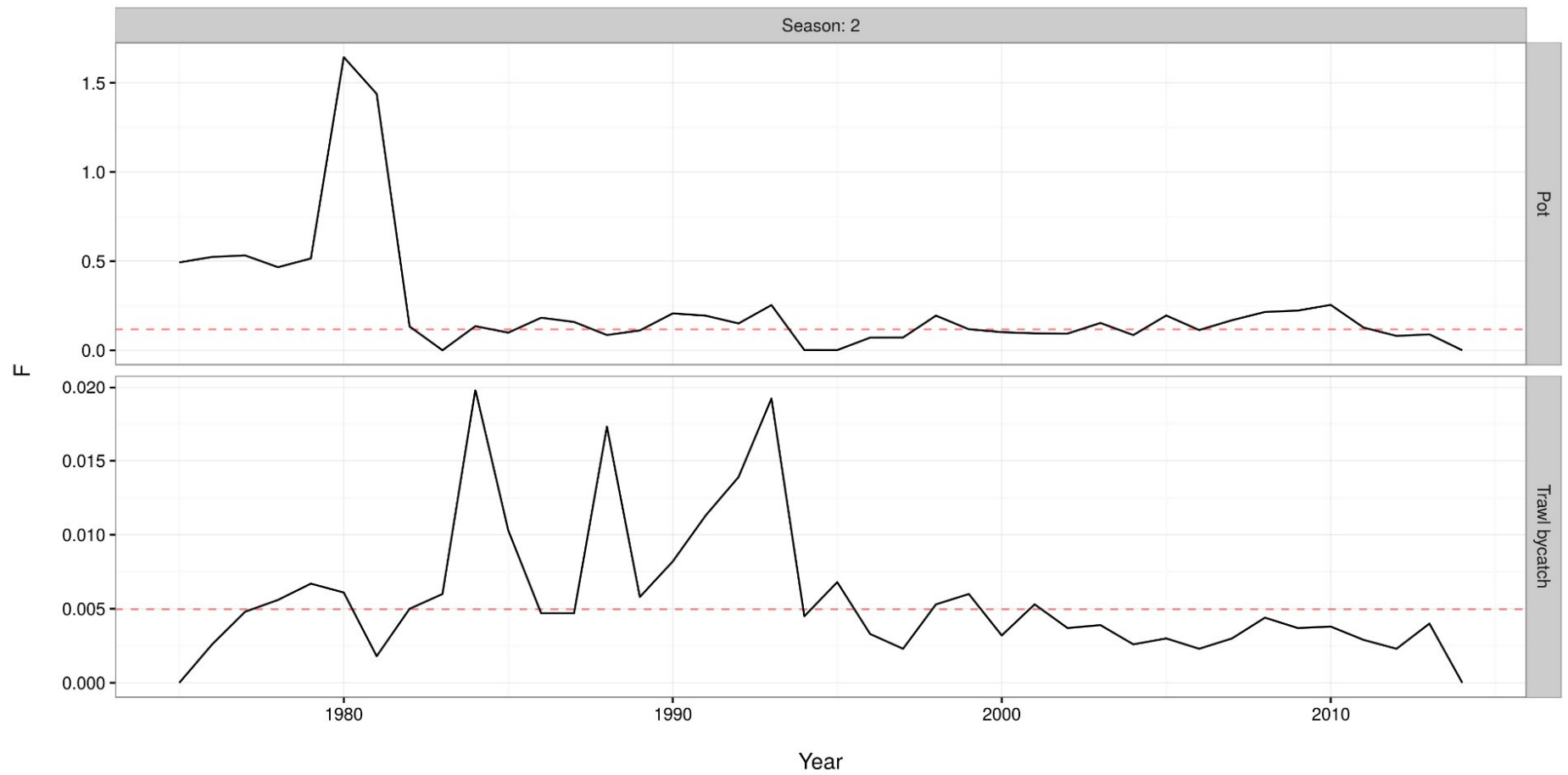




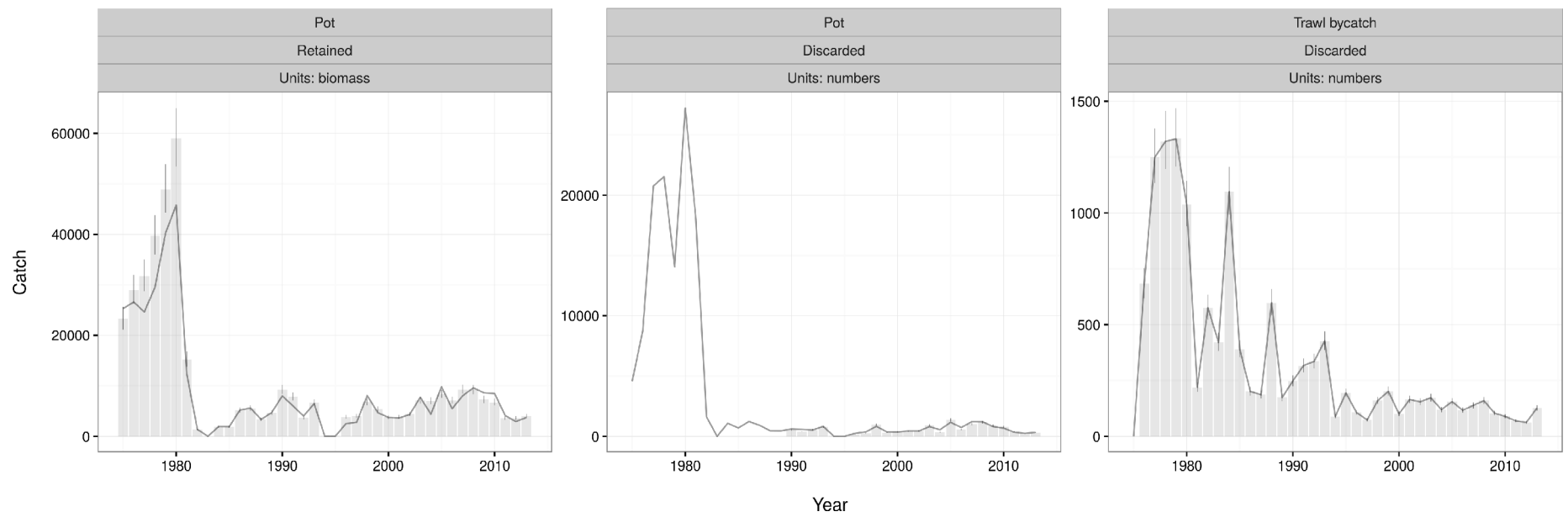
# Survey



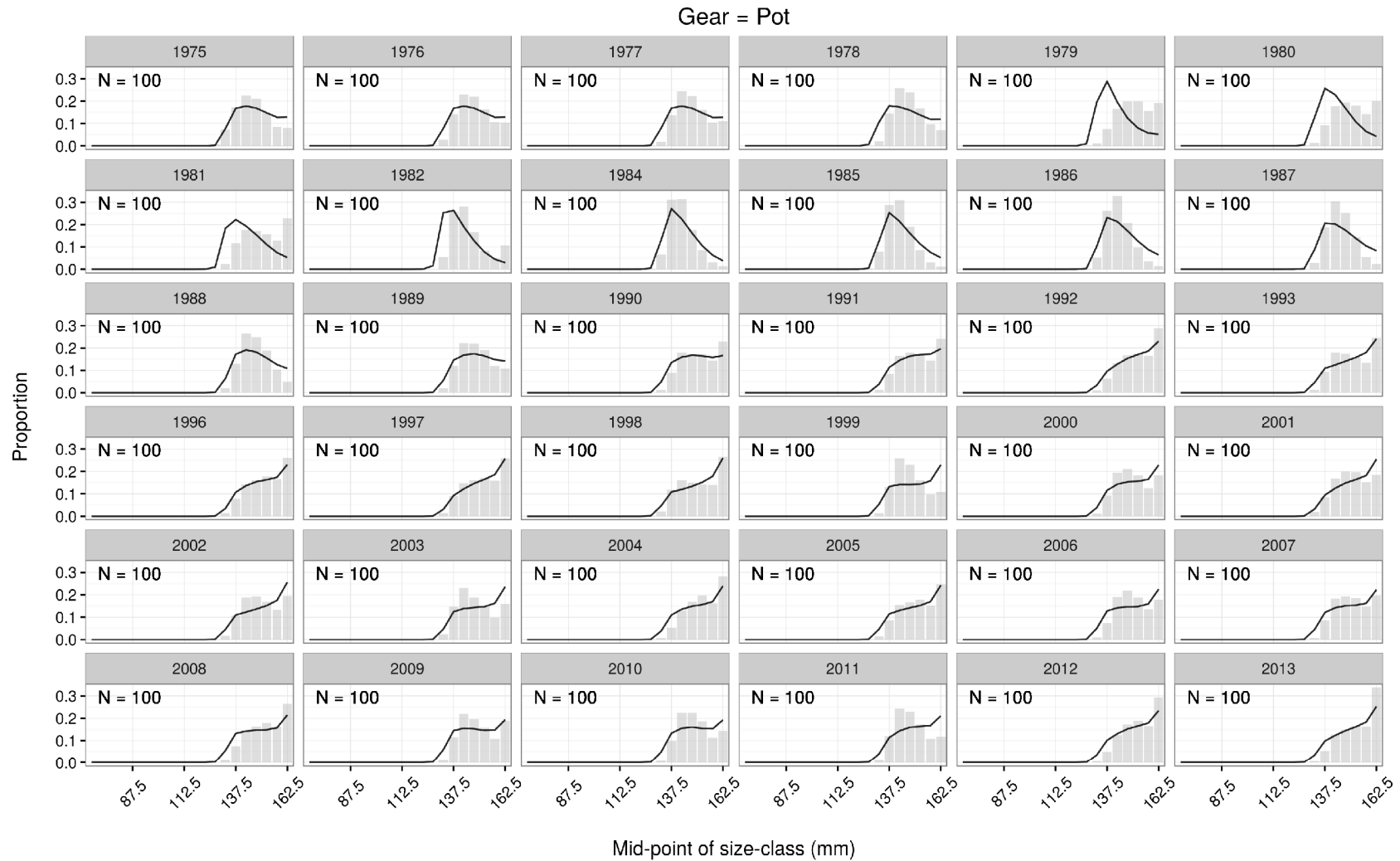
# Fishing mortality



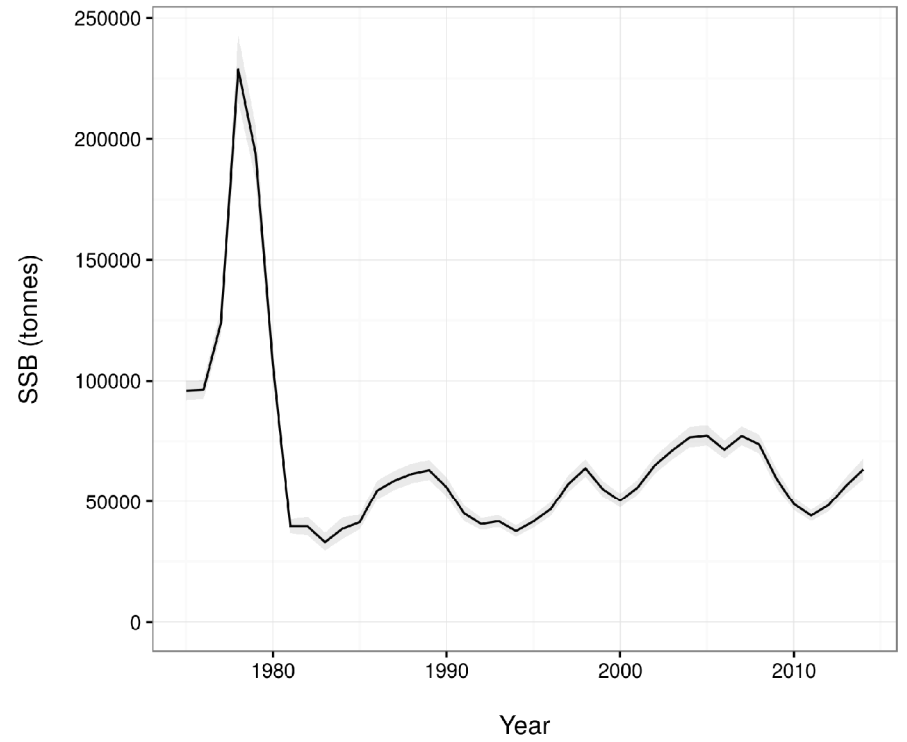
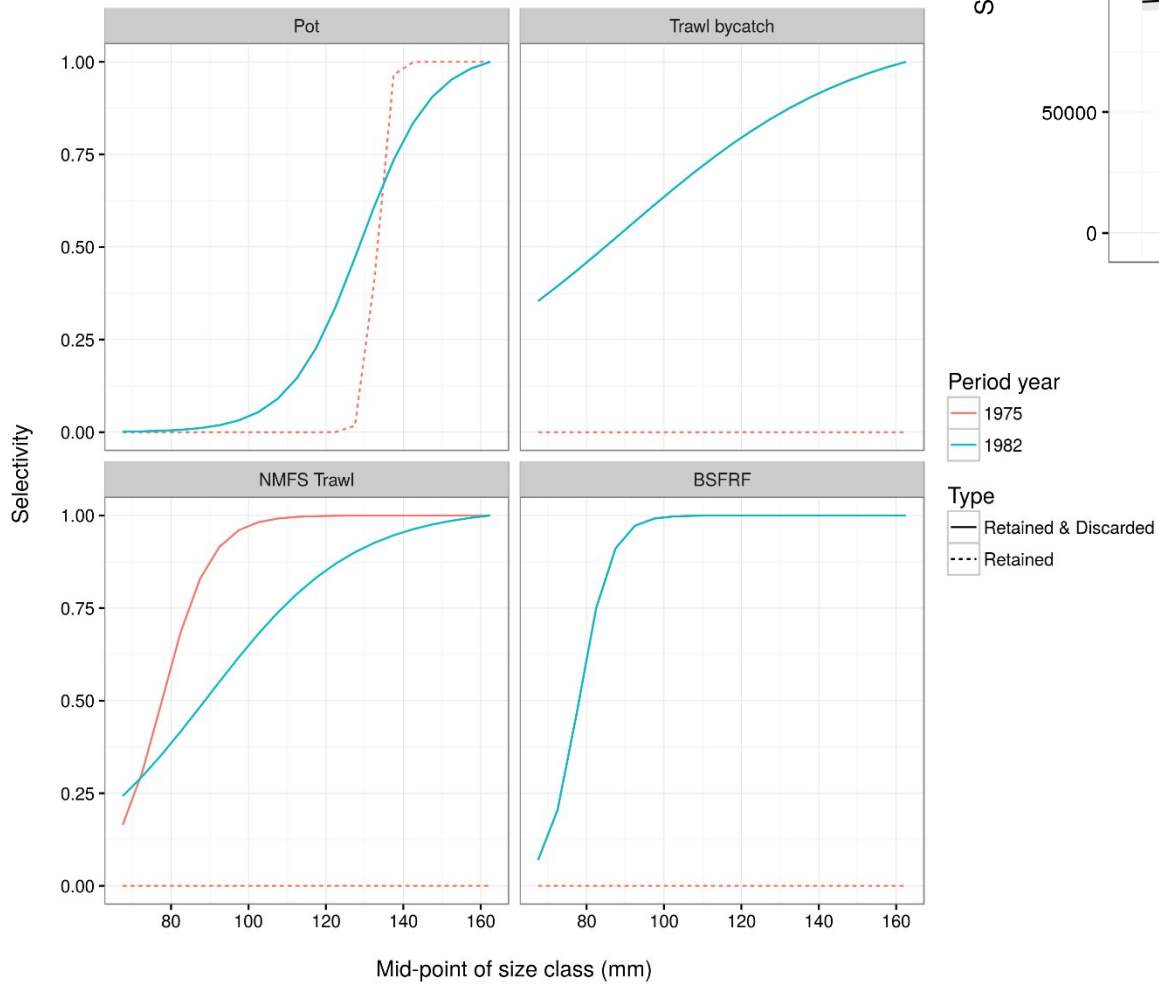
# Catch



# Size Compositions



# SSB



# References

Francis, R.I.C.C. 2011. Data weighting in statistical fisheries stock assessment models. *Can. J. Fish. Aquat. Sci.* 68: 1124-1138.