

American Samoa Model Checks

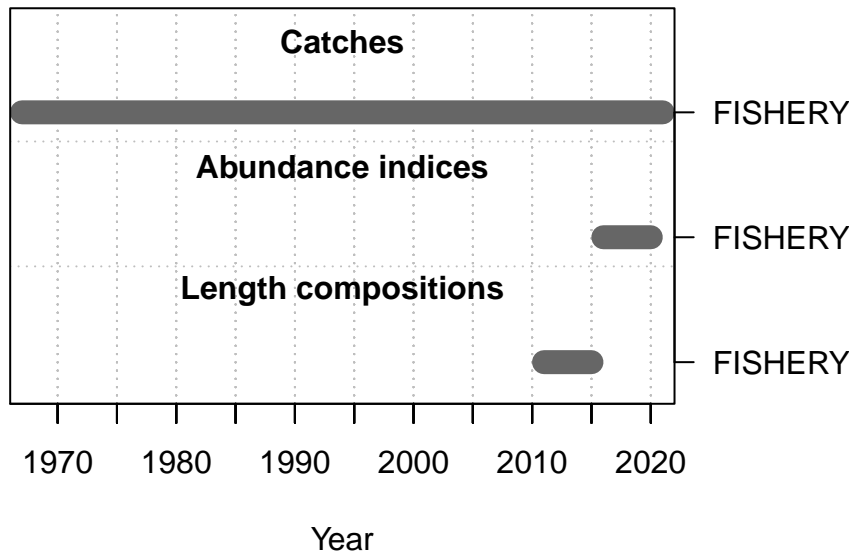
Marc Nadon and Meg Oshima

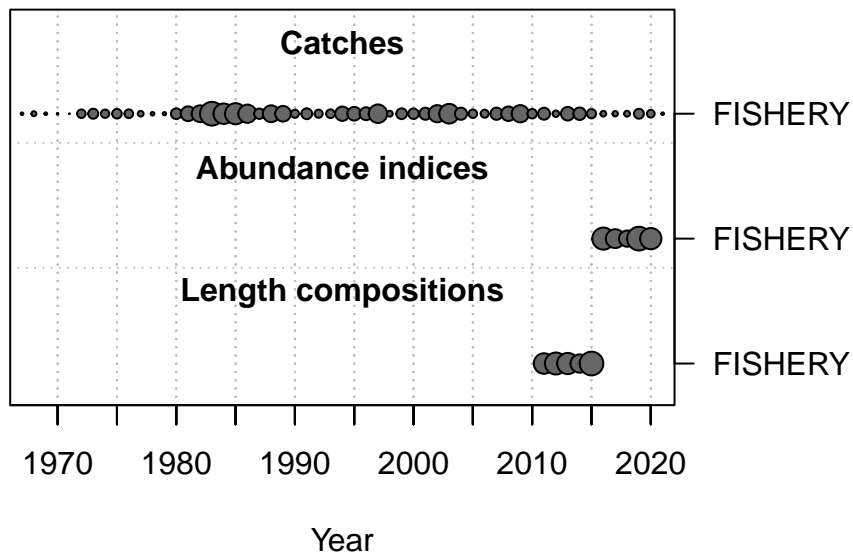
2022-12-29

This is a summary report for the VALO base model run.

Model Output

Input Data





Convergence Check

```

Converged      MaxGrad
1      TRUE 9.17621e-06

```

```

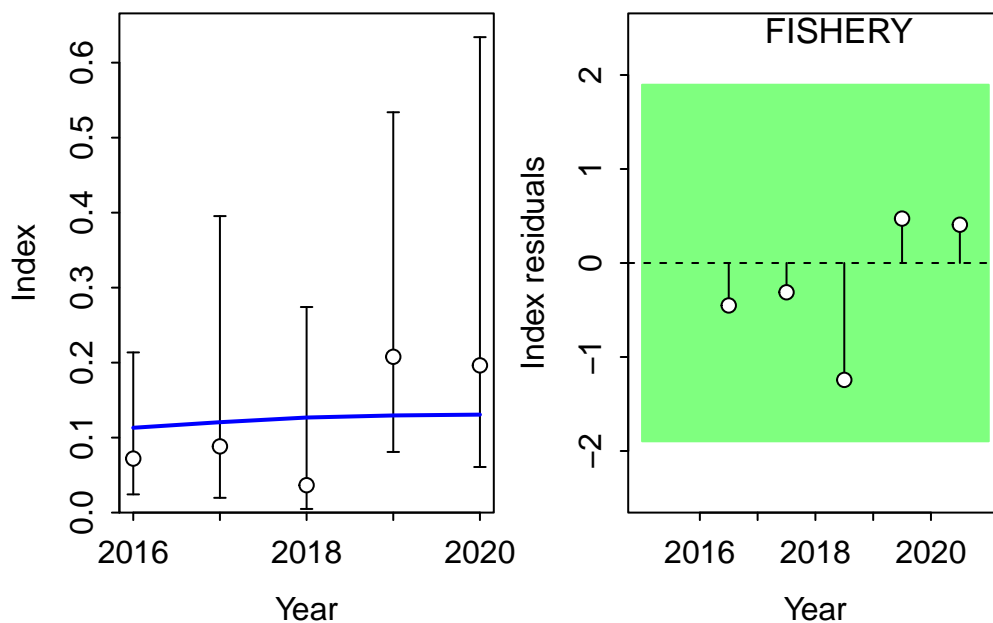
[1] "1 NOTE: Max data length bin: 51 < max pop len bins: 57; so will accumulate larger pop
[2] "N warnings: 1"

```

Fit to Model

CPUE

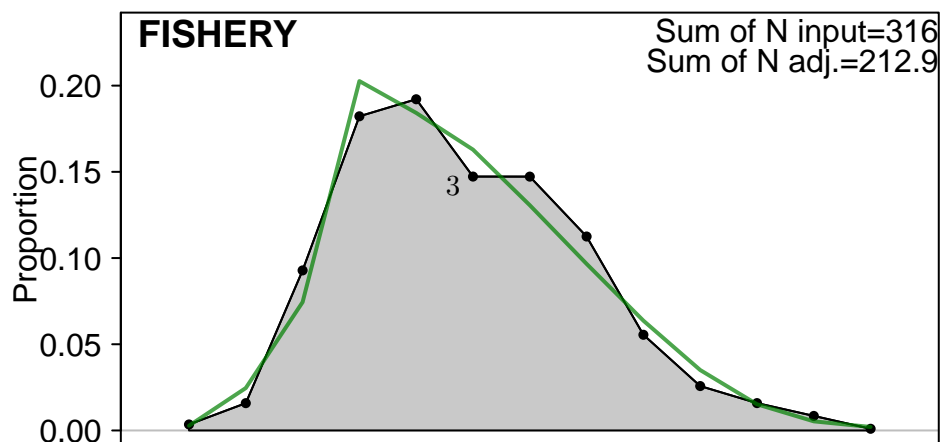
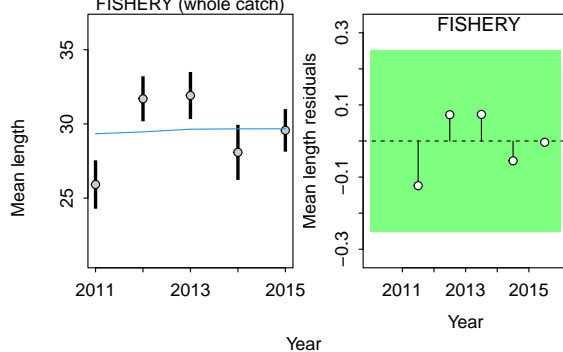
Fleet	RMSE.perc	Nobs
FISHERY	66.9	5
Combined	66.9	5

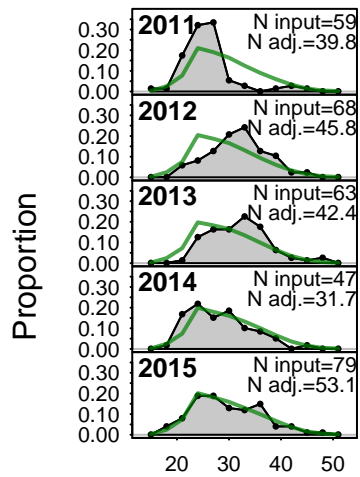


Length Comp

Fleet	RMSE.perc	Nobs
FISHERY	7.6	5
Combined	7.6	5

w lo hi Index runs.p test sigma3.lo sigma3.hi type
 0.10712155 0.06647655 1.36641529 1 FISHERY 0.331 Passed -0.2510862 0.2510862 len

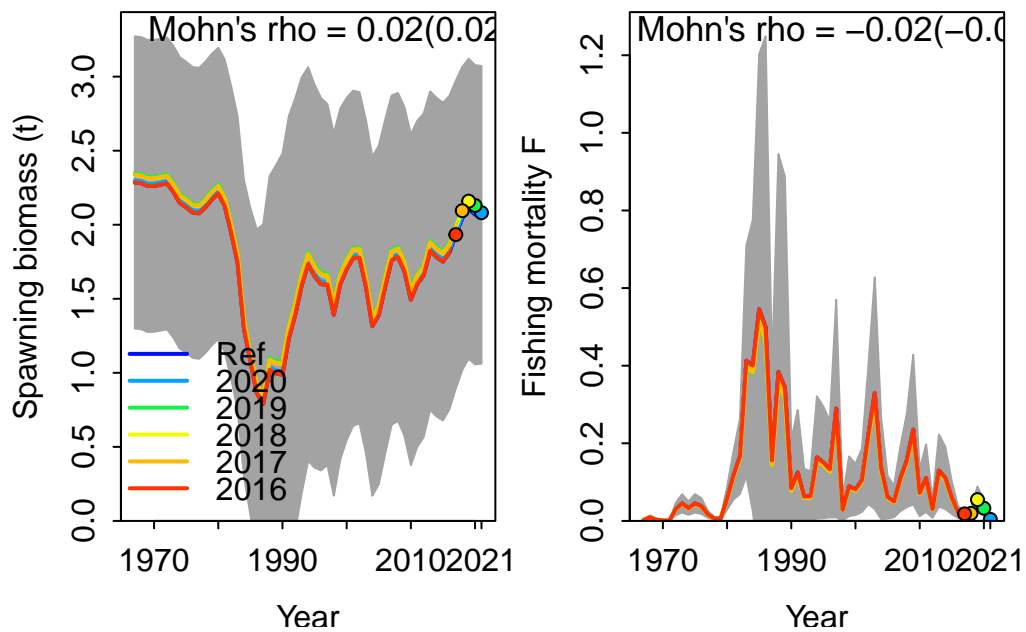




Length (cm)

Retrospective

Mohn's Rho stats, including one step ahead forecasts:



Mohn's Rho stats, including one step ahead forecasts:

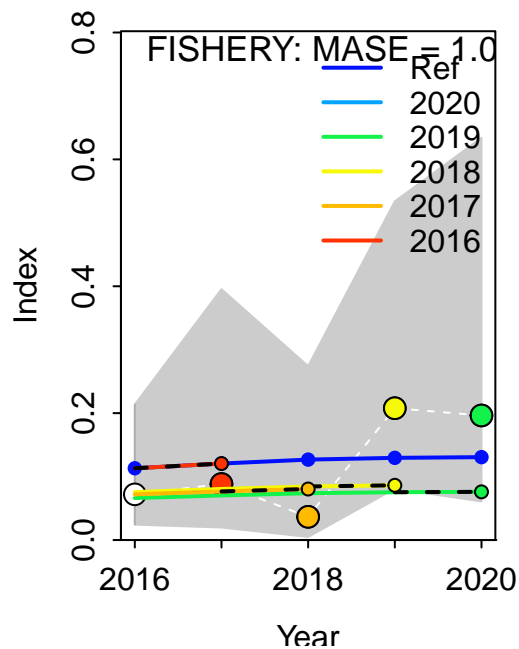
	type	peel	Rho	ForecastRho
1	F	2020	-0.007917187	-0.007657973
2	F	2019	-0.034091050	-0.033651732
3	F	2018	-0.028503174	-0.027754621
4	F	2017	-0.031248456	-0.029595820
5	F	2016	0.000000000	0.000000000
6	F Combined		-0.020351973	-0.019732029

Hindcasting

Plotting Hindcast Cross-Validation (one-step-ahead)

Computing MASE with only 4 of 5 prediction residuals for Index FISHERY

Warning: Unequal spacing of naive predictions residuals may influence the interpretation of



MASE stats by Index:

Plotting Hindcast Cross-Validation (one-step-ahead)

No observations in evaluation years to compute prediction residuals for Index FISHERY

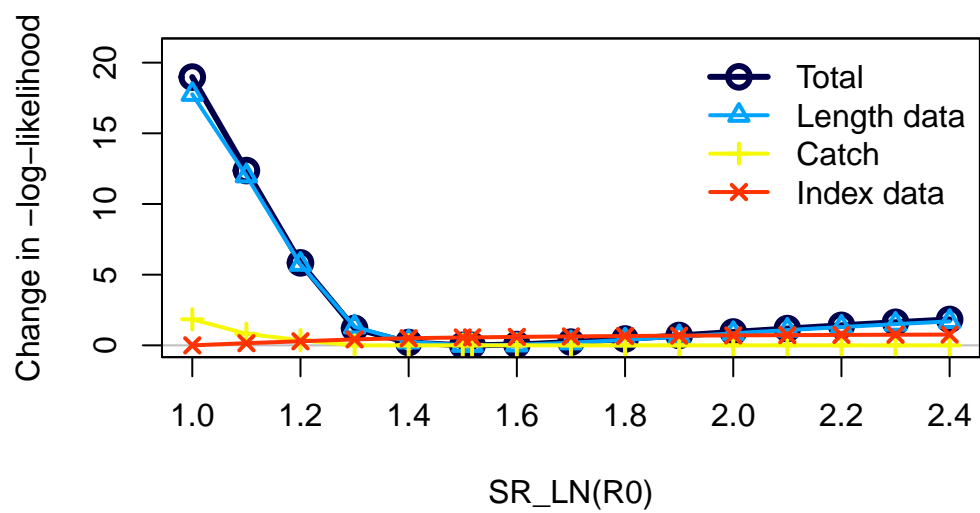
MASE stats by Index:

Recruitment Deviations

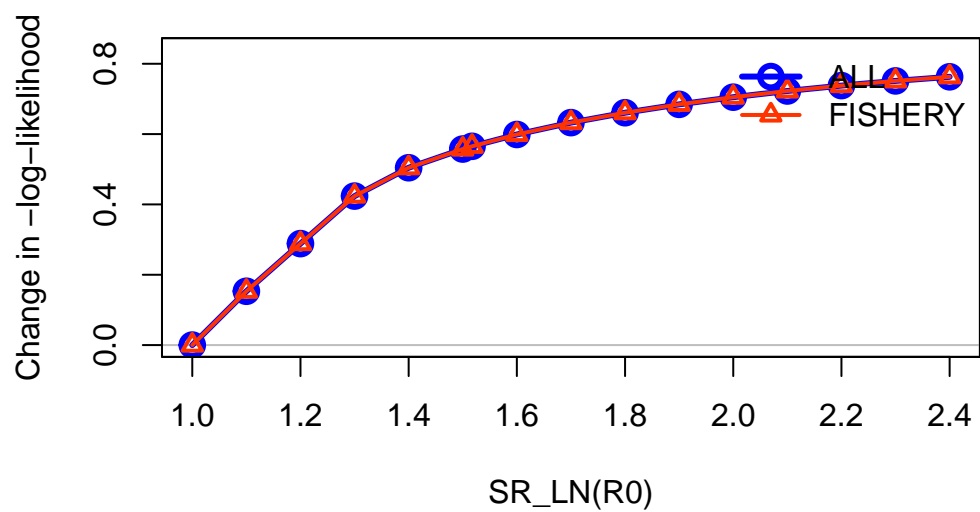
Likelihood Profile

```
[1] "SR_LN"

      frac_change include      label
TOTAL      1.0000   TRUE      Total
Catch      0.0971   TRUE      Catch
Equil_catch 0.0000  FALSE Equilibrium catch
Survey      0.0402   TRUE      Index data
Length_comp 0.9358   TRUE      Length data
Recruitment 0.0000  FALSE      Recruitment
InitEQ_Regime 0.0000  FALSE Initial equilibrium recruitment
Forecast_Recruitment 0.0000  FALSE Forecast recruitment
Parm_priors 0.0047  FALSE      Priors
Parm_softbounds 0.0001  FALSE Soft bounds
Parm_devs 0.0000  FALSE Parameter deviations
Crash_Pen 0.0000  FALSE      Crash penalty
```

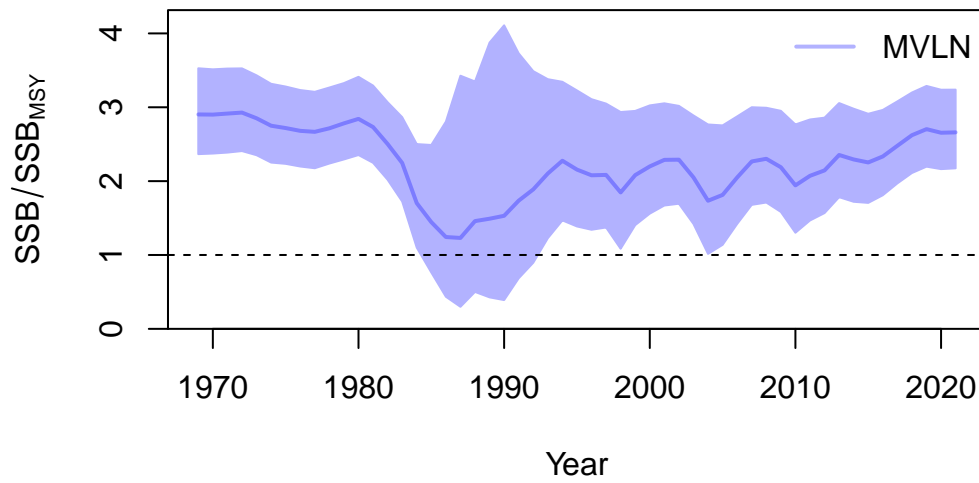
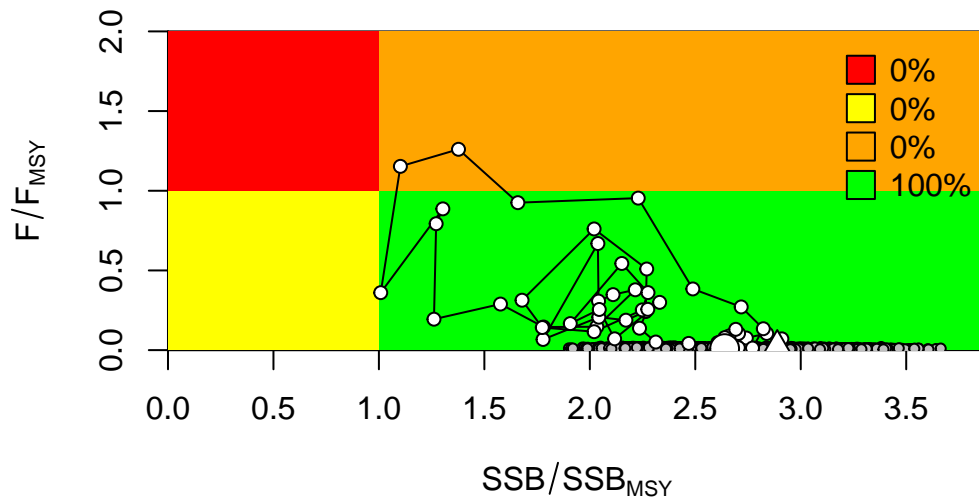


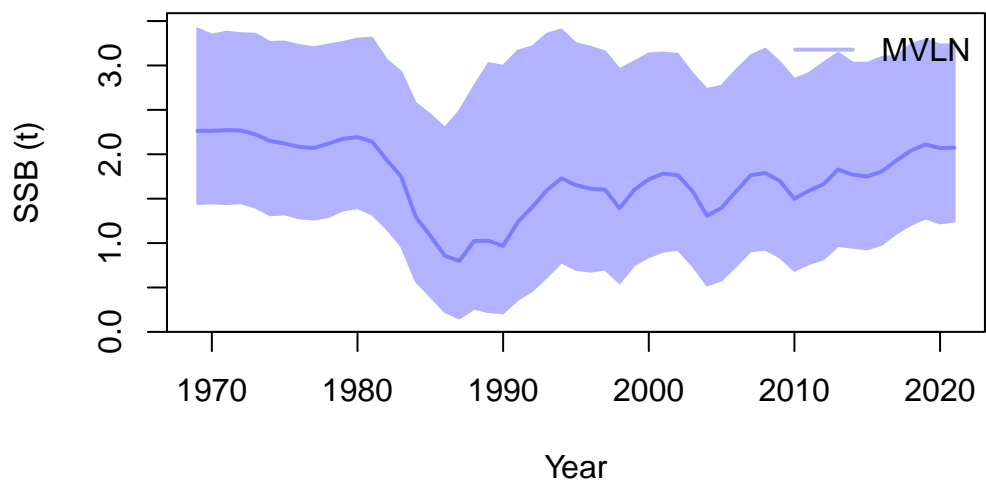
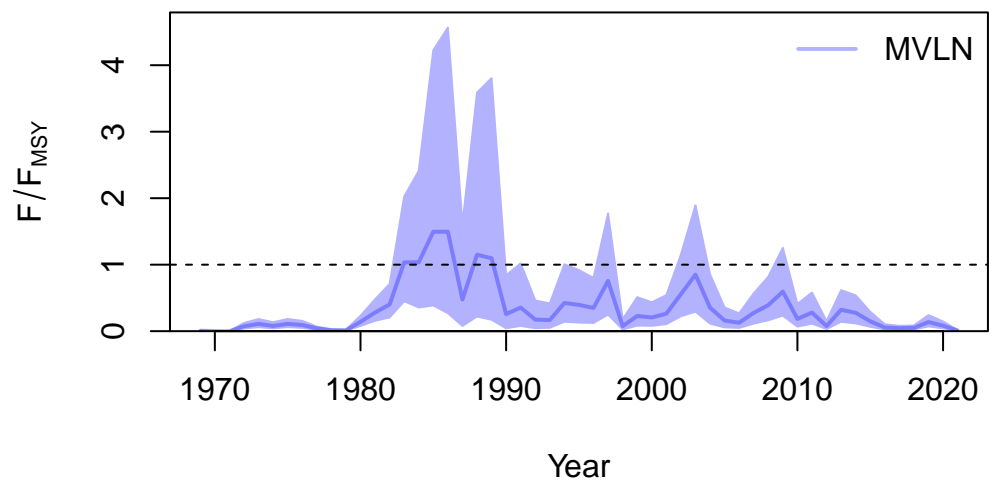
Changes in survey likelihood by fleet

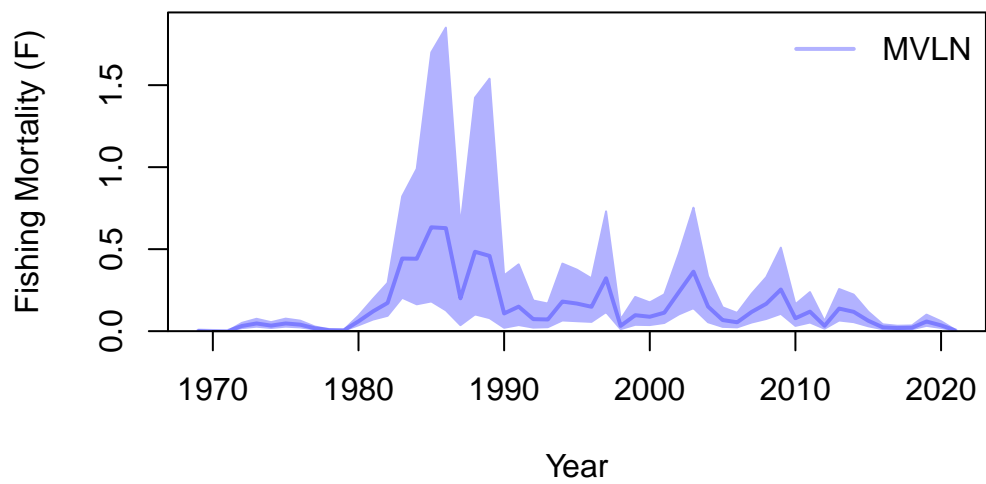


Management Quantities

starter.sso with Bratio: SSB/SSB_{MSY} and F: _abs_F

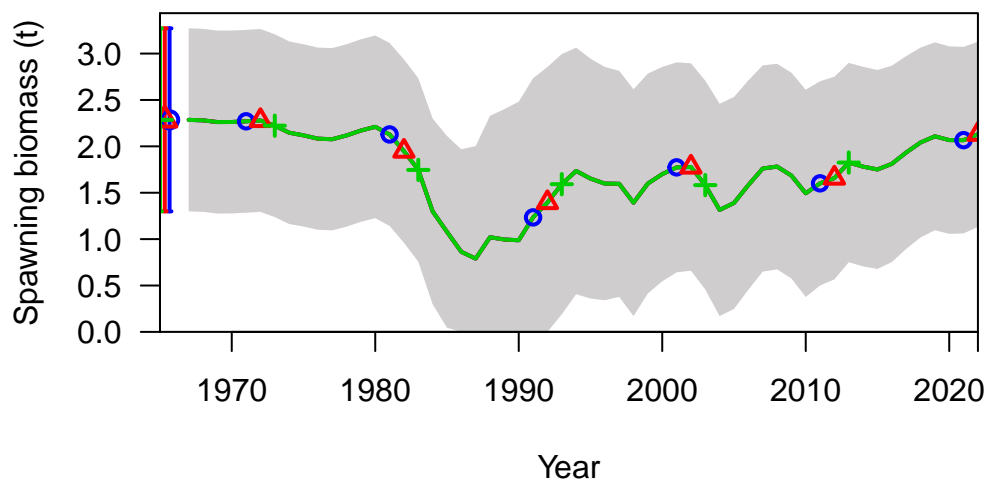
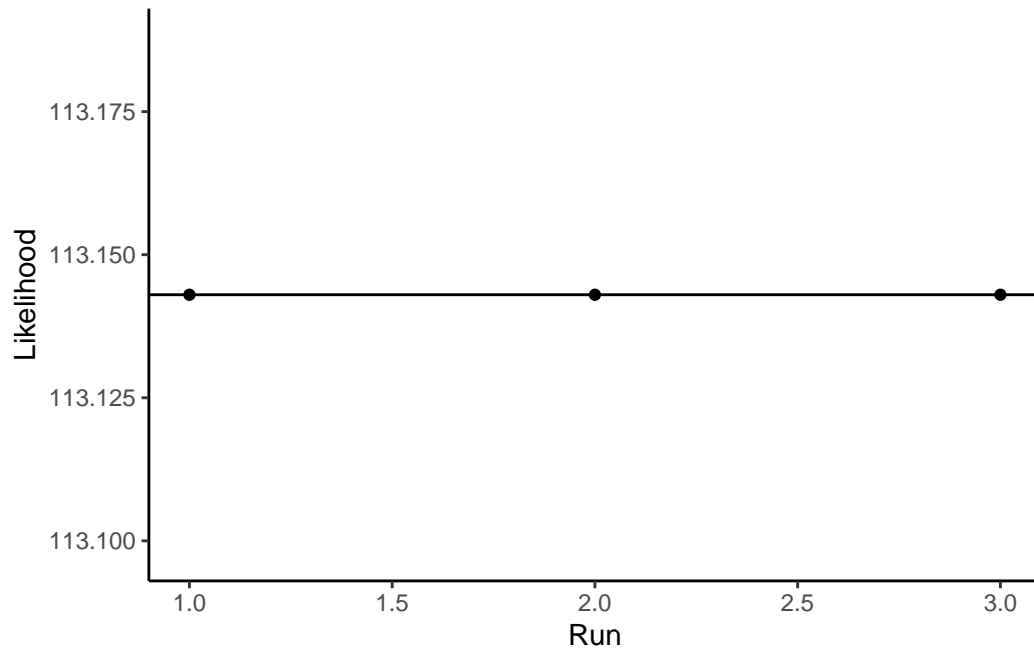


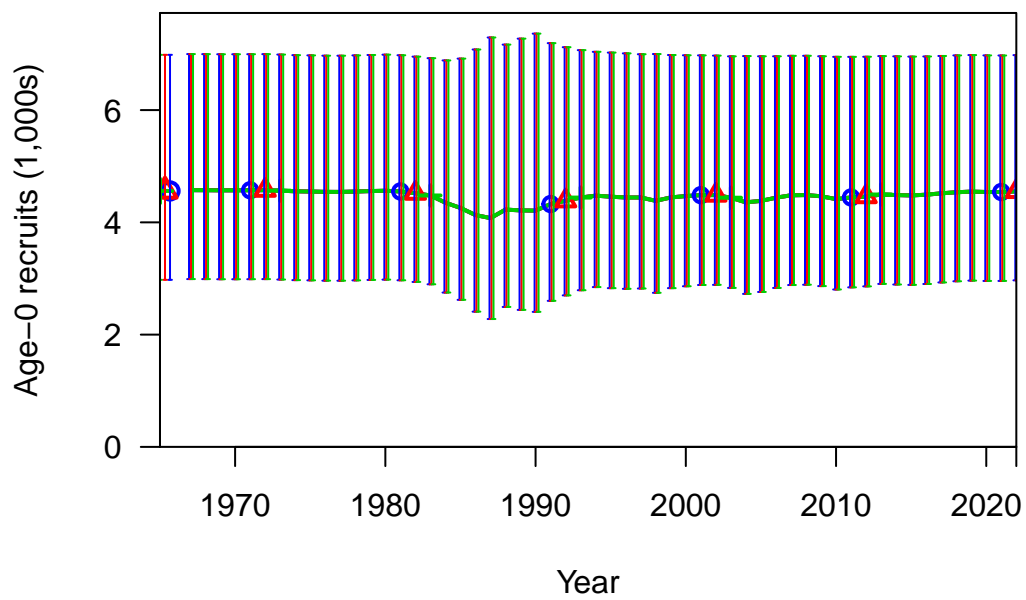
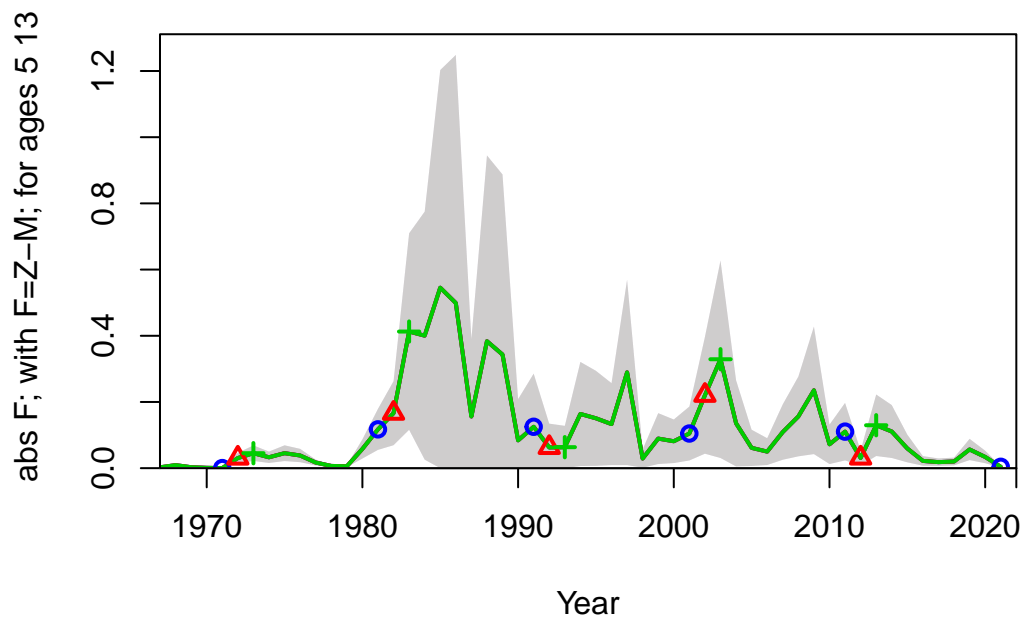




null device
1

Jitter





Selectivity and Maturity

