

# American Samoa Model Checks

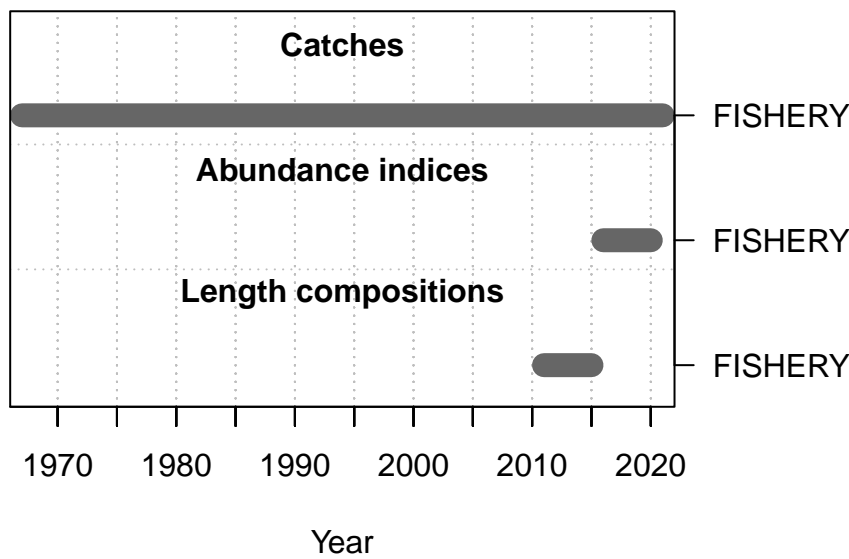
Marc Nadon and Meg Oshima

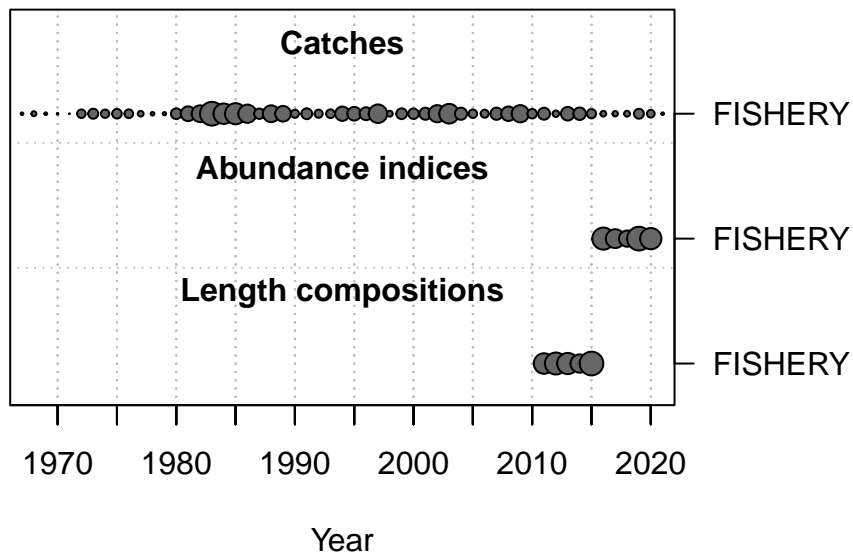
2023-01-05

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

## Model Output

### Input Data





### Convergence Check

```

Converged      MaxGrad
1      TRUE 9.17621e-06

```

```

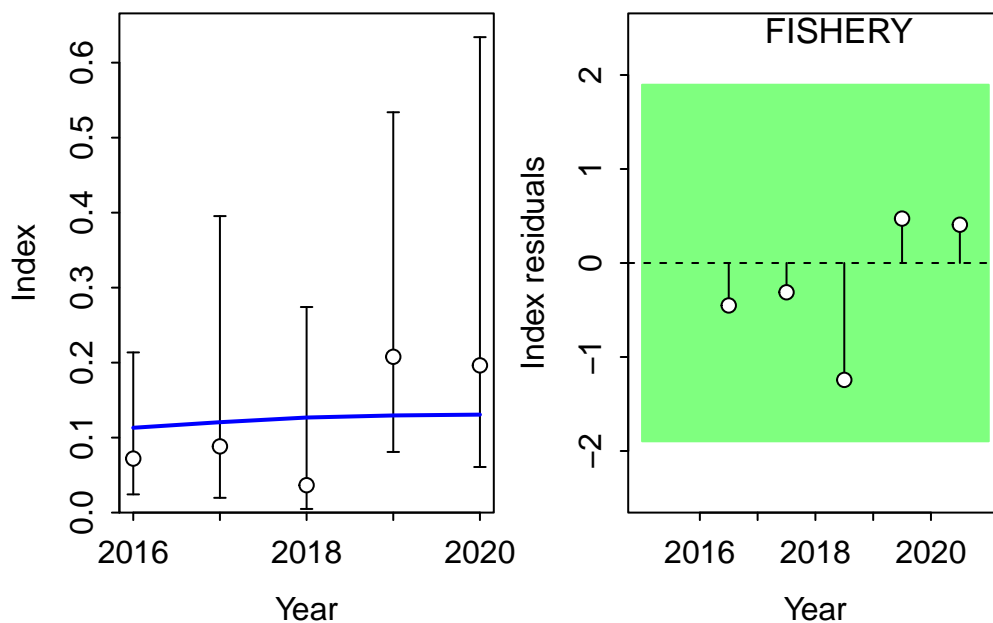
[1] "1 NOTE: Max data length bin: 51 < max pop len bins: 57; so will accumulate larger pop
[2] "N warnings: 1"

```

### Fit to Model

#### CPUE

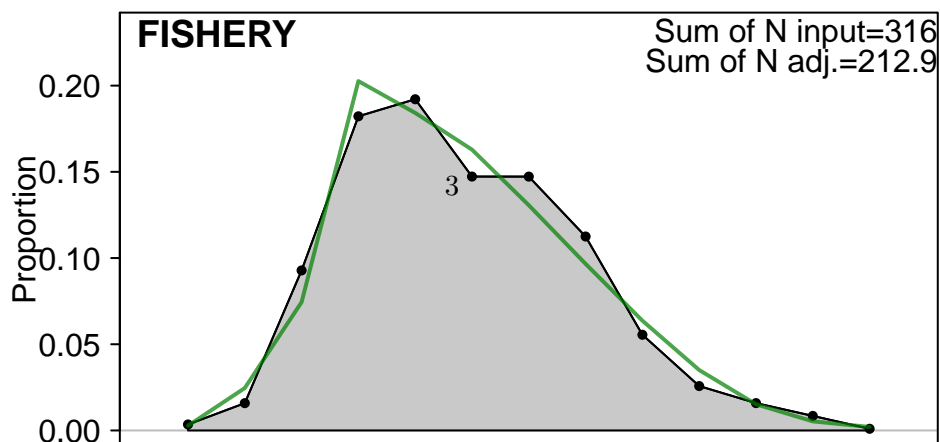
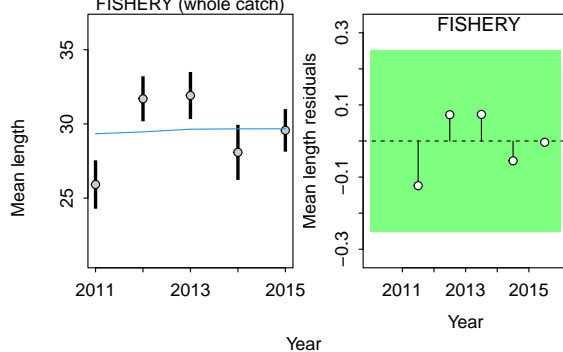
Fleet	RMSE.perc	Nobs
FISHERY	66.9	5
Combined	66.9	5

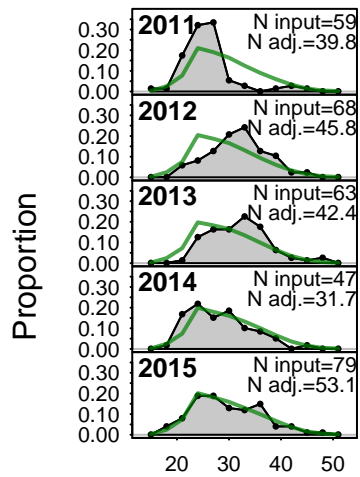


### Length Comp

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 0.06624138 0.54472701 1 FISHERY 0.331 Passed -0.2510862 0.2510862 len

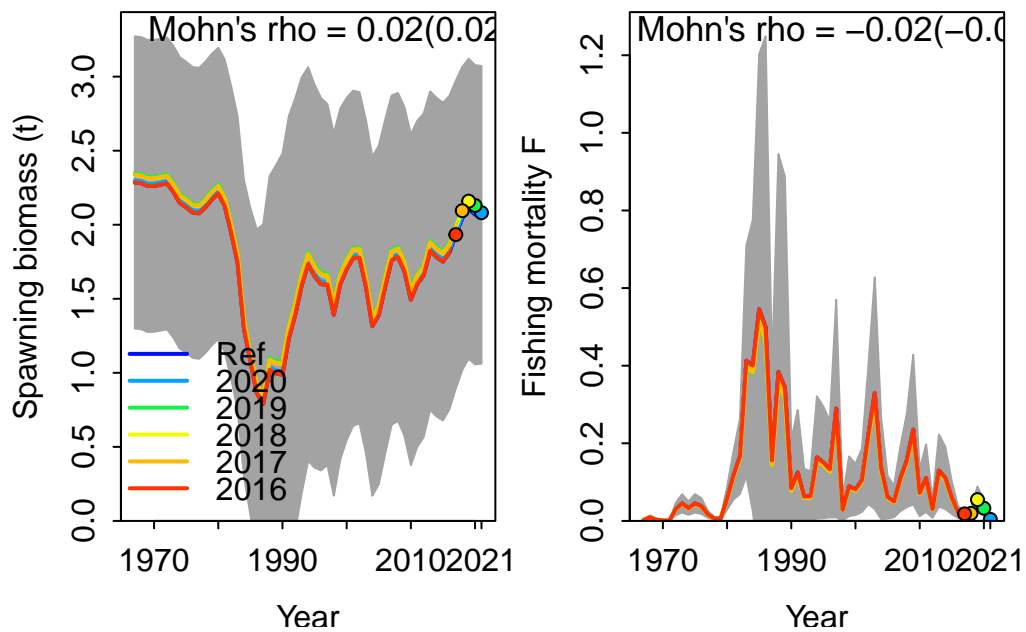




Length (cm)

## 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

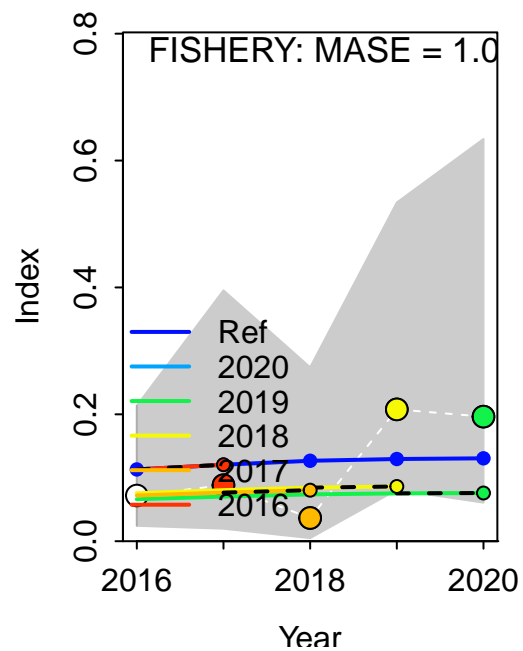
MASE stats by Index:

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

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

MASE stats by Index:

	Index	Season	MASE	MAE.PR	MAE.base	MASE.adj	n.eval
1	FISHERY	1	NA	NA	NA	NA	0

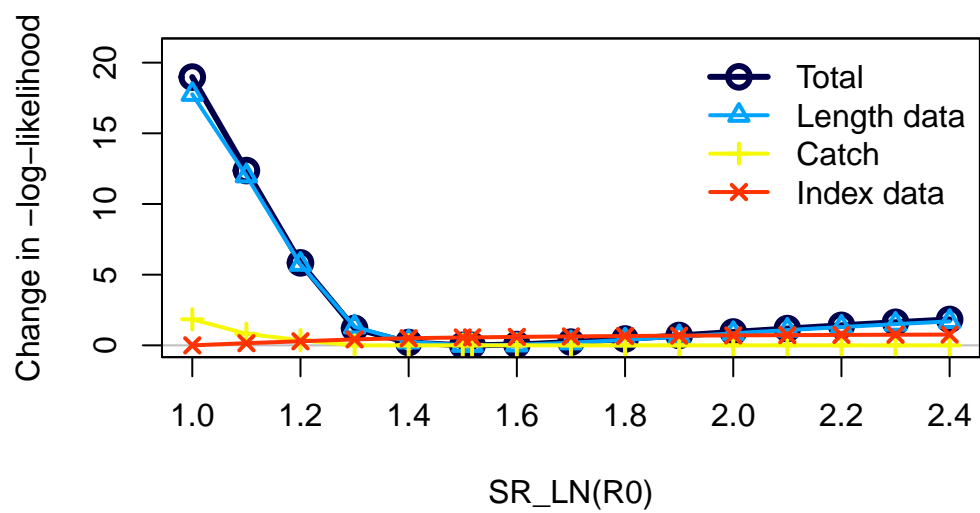


## Recruitment Deviations

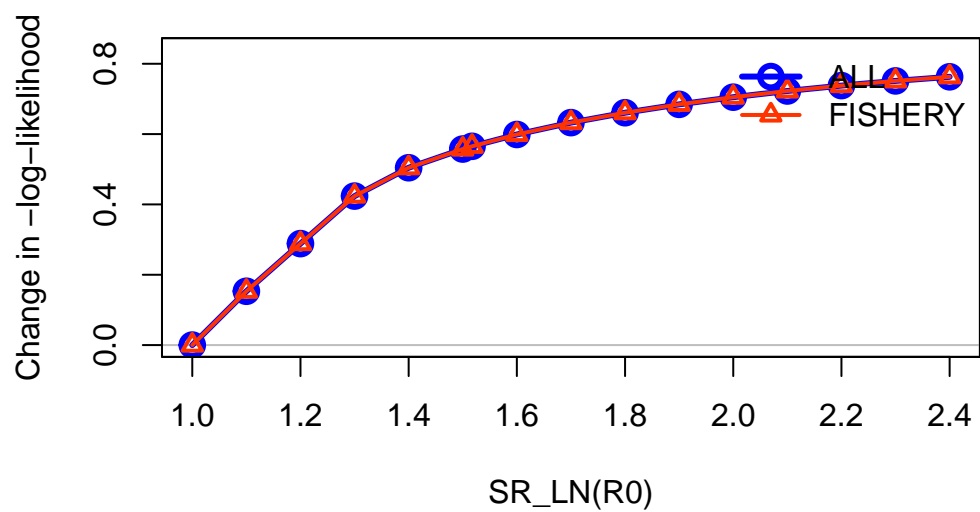
### Likelihood Profile

[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	Initital 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

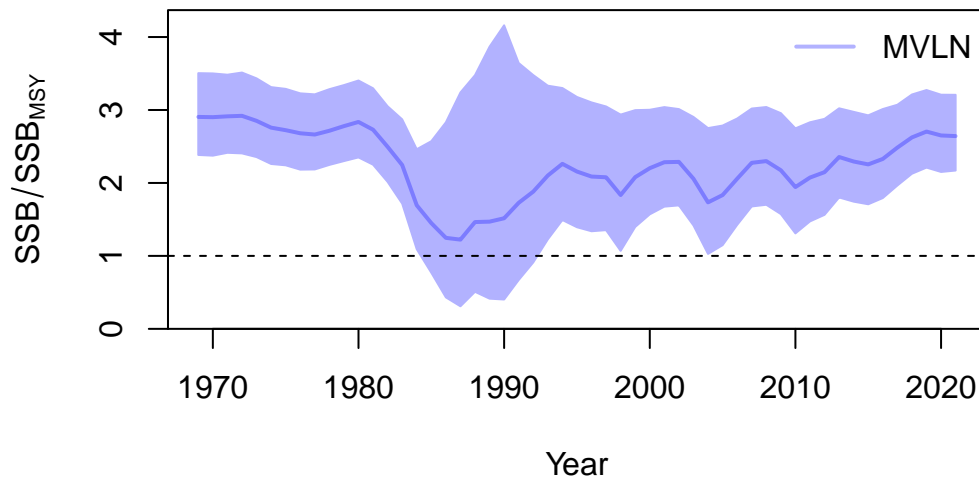
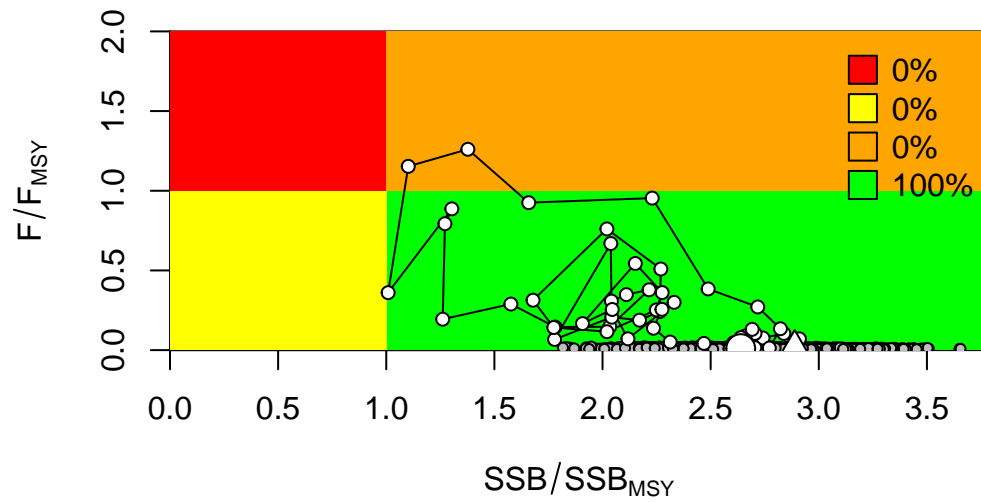


**Changes in survey likelihood by fleet**

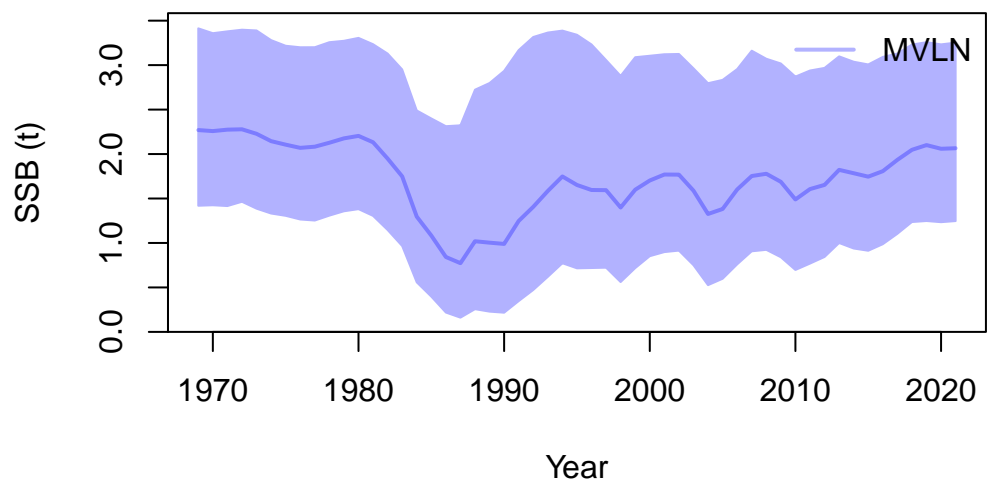
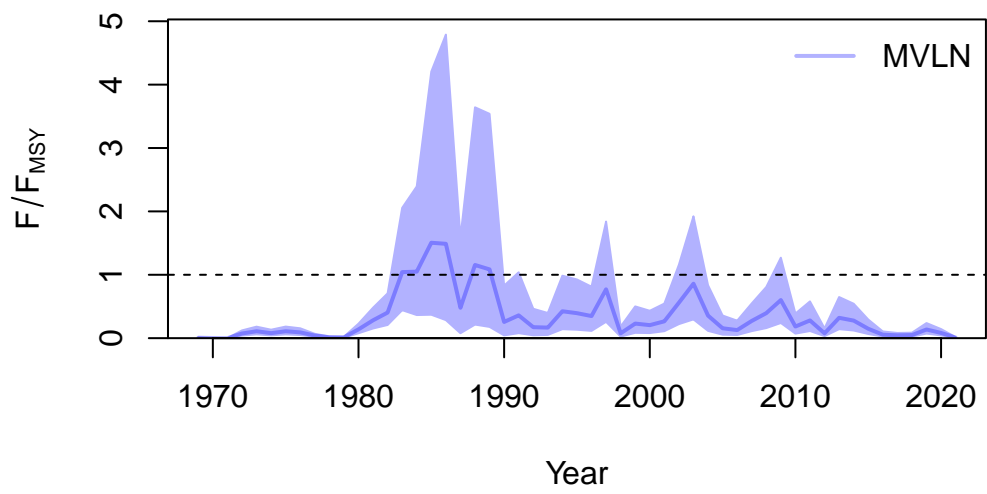


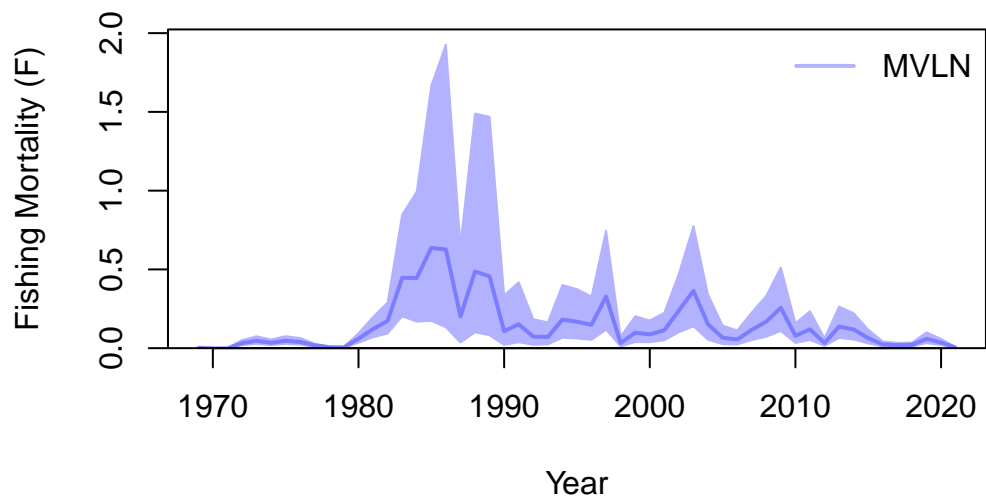
Management Quantities

starter.sso with Bratio: SSB/SSB<sub>MSY</sub> and F: \_abs\_F



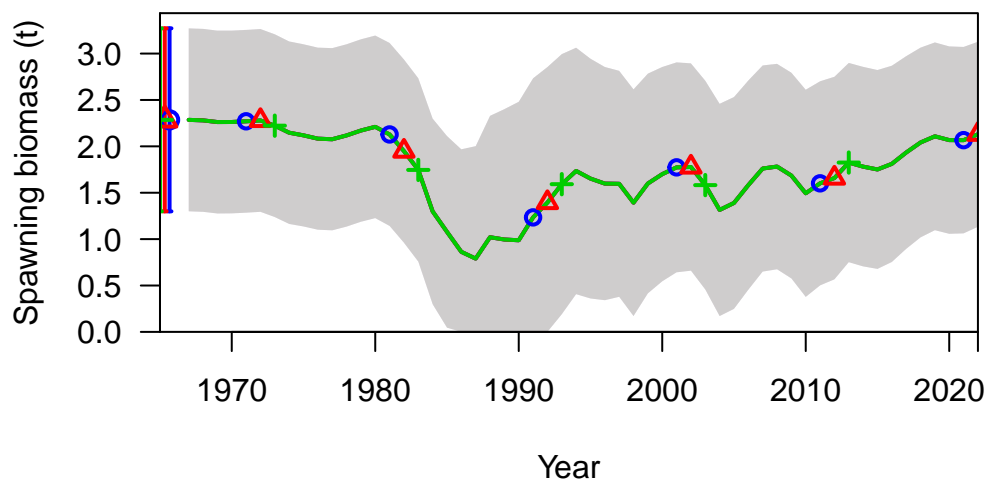
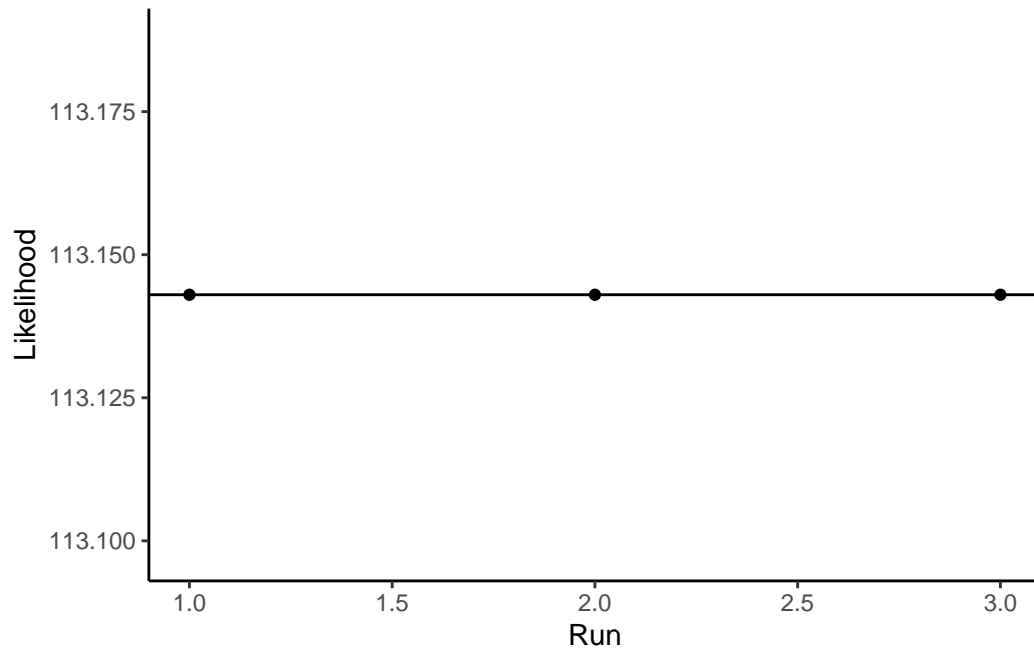


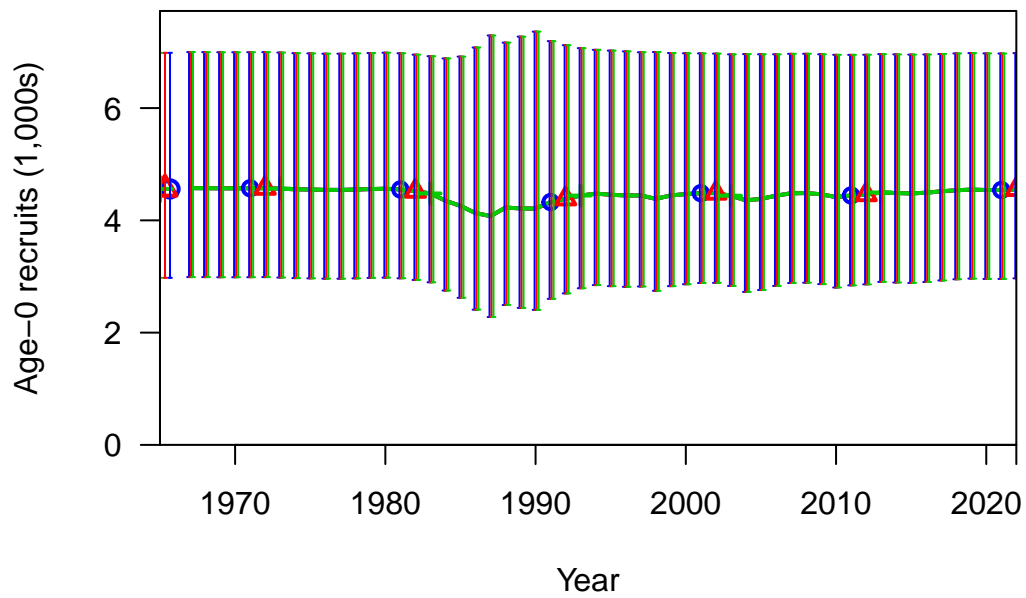
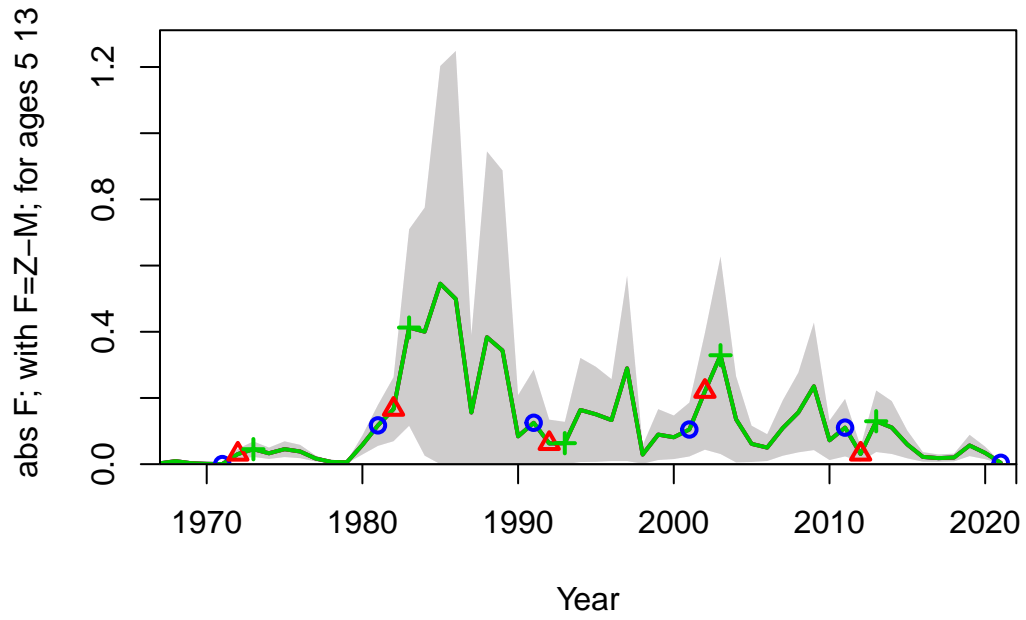




null device  
1

**Jitter**





**Selectivity and Maturity**

