

# American Samoa Model Checks

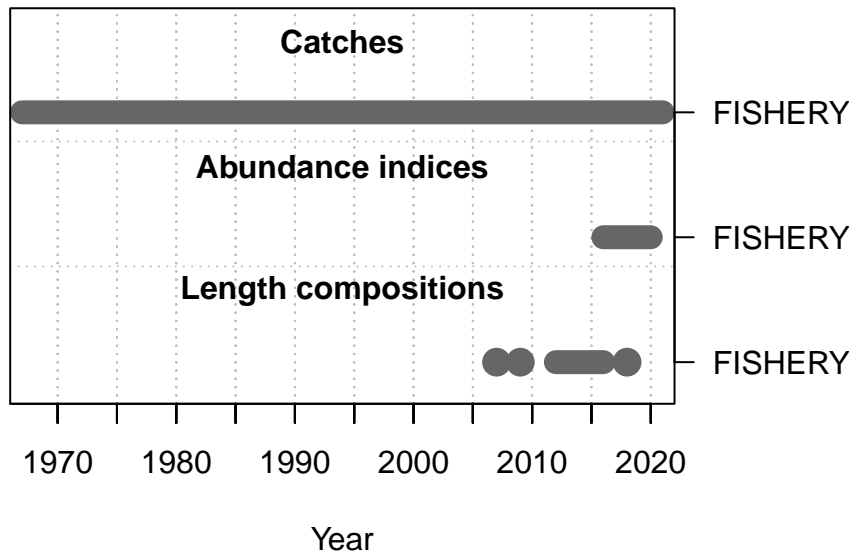
Marc Nadon and Meg Oshima

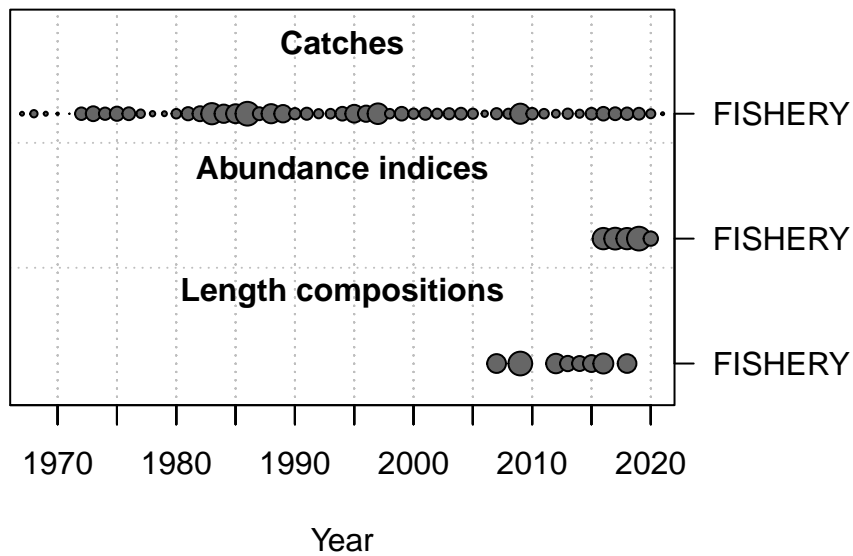
2023-01-05

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

## Model Output

### Input Data





### Convergence Check

```

Converged      MaxGrad
1      TRUE 7.83088e-05

```

```

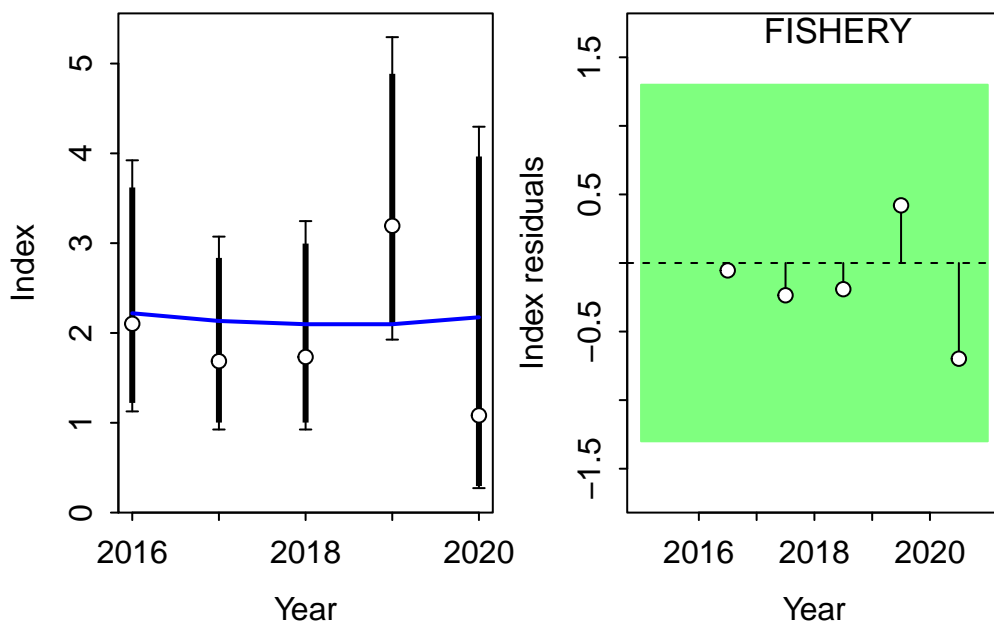
[1] "1 NOTE: Max data length bin: 65 < max pop len bins: 72; so will accumulate larger pop
[2] "N warnings: 1"

```

### Fit to Model

#### CPUE

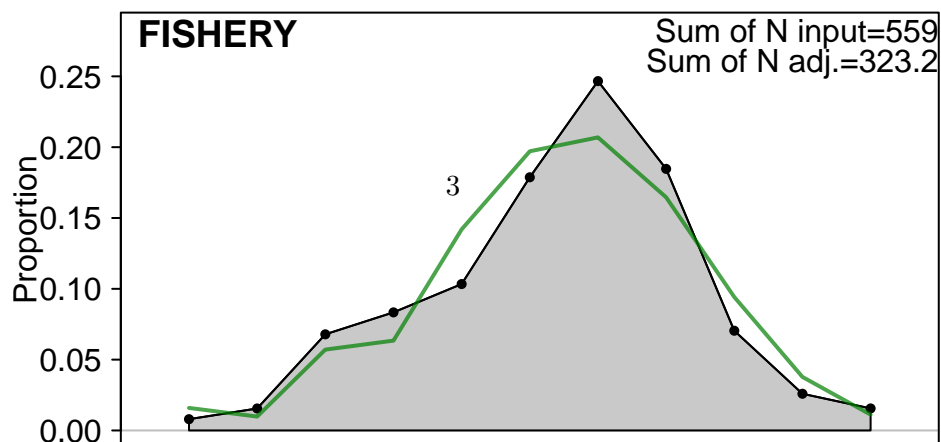
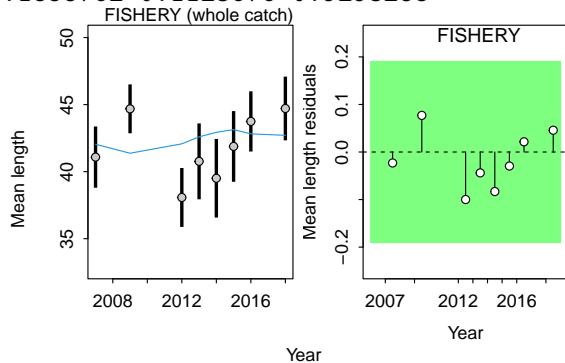
Fleet	RMSE.perc	Nobs
FISHERY	38.9	5
Combined	38.9	5

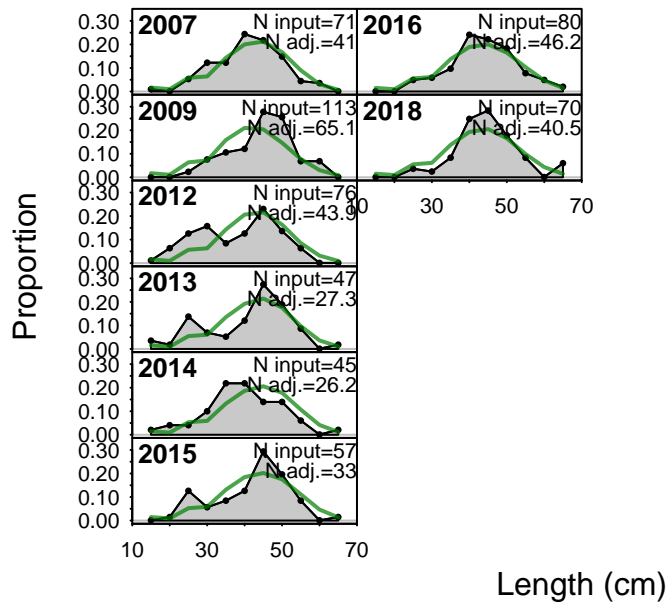


### Length Comp

Fleet	RMSE.perc	Nobs
FISHERY	6	8
Combined	6	8

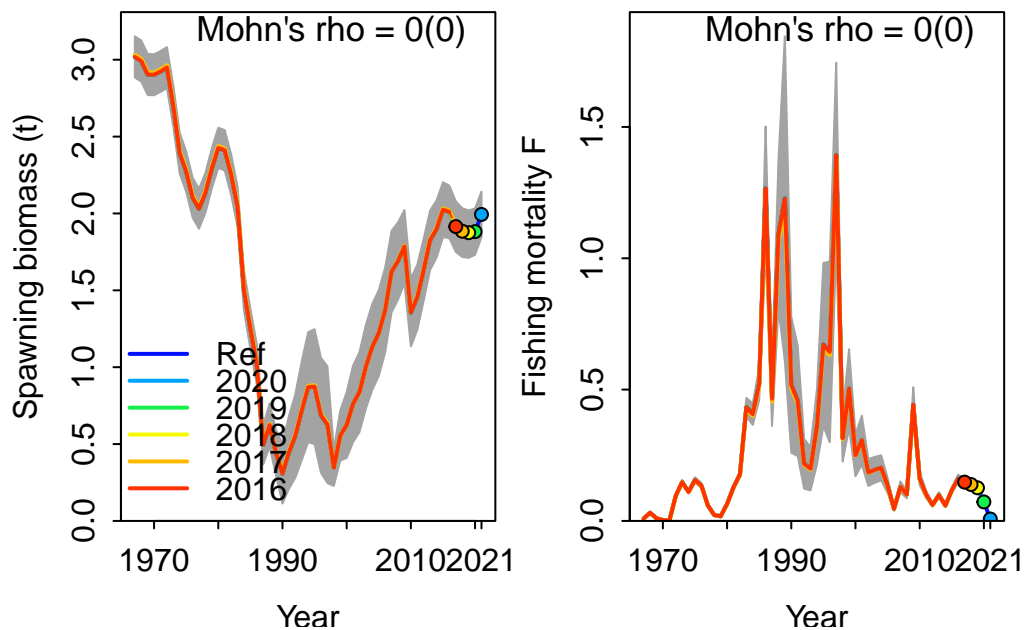
w lo hi Index runs.p test sigma3.lo sigma3.hi type  
 0.1858762 0.1123676 0.9293288 1 FISHERY 0.268 Passed -0.1904378 0.1904378 len





## 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	0.0002362547	0.0002158877
2	F	2019	-0.0003219398	-0.0003122431
3	F	2018	-0.0088493677	-0.0088651229
4	F	2017	-0.0087061308	-0.0088422196
5	F	2016	0.0000000000	0.0000000000
6	F Combined		-0.0035282367	-0.0035607396

## Hindcasting

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

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

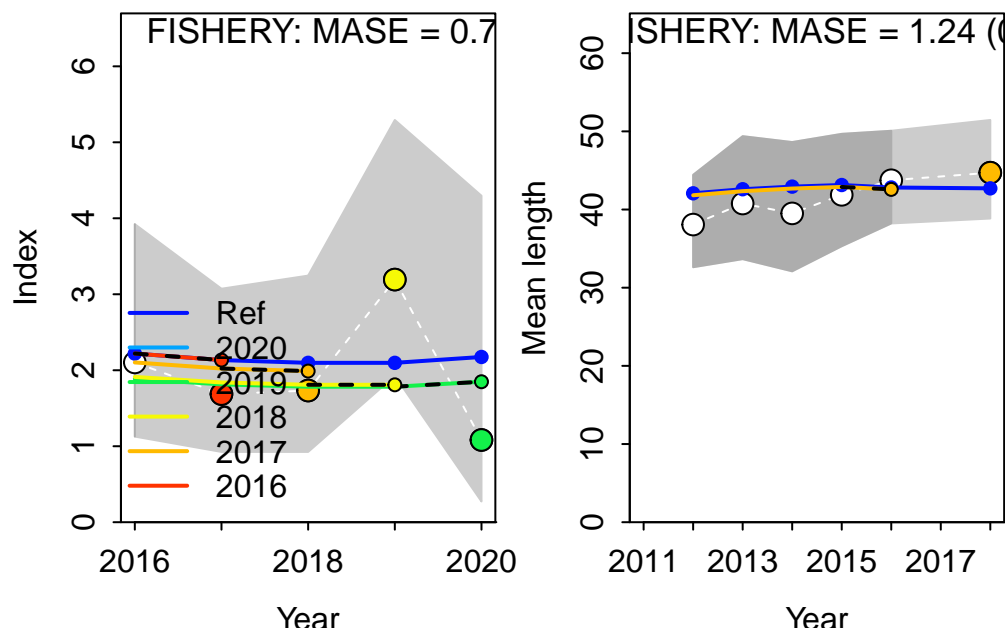
Warning: Unequal spacing of naive predictions residuals may influence the interpretation of

MASE stats by Index:

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

Computing MASE with only 1 of 5 prediction residuals for Index FISHERY

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



MASE stats by Index:

	Index	Season	MASE	MAE.PR	MAE.base	MASE.adj	n.eval
1	FISHERY	1	1.243355	0.0271266	0.02181726	0.271266	1

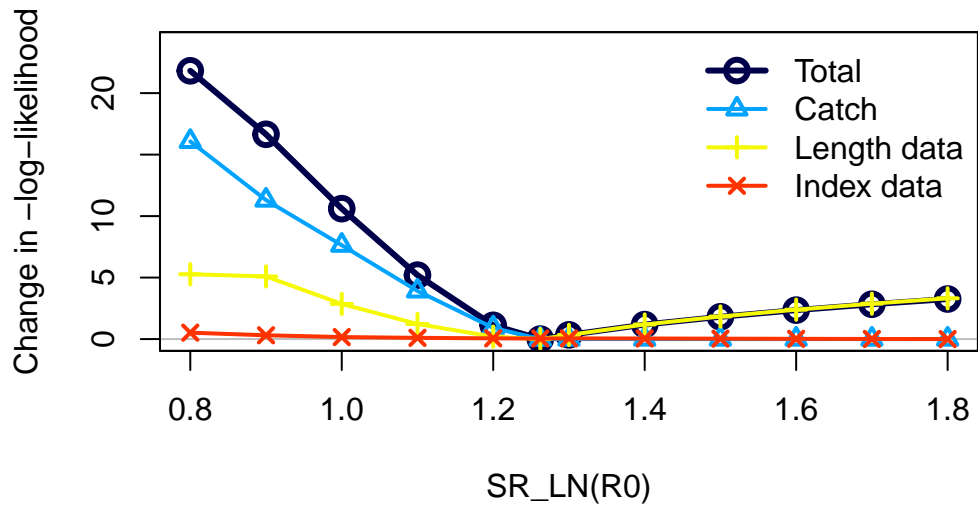
## Recruitment Deviations

### Likelihood Profile

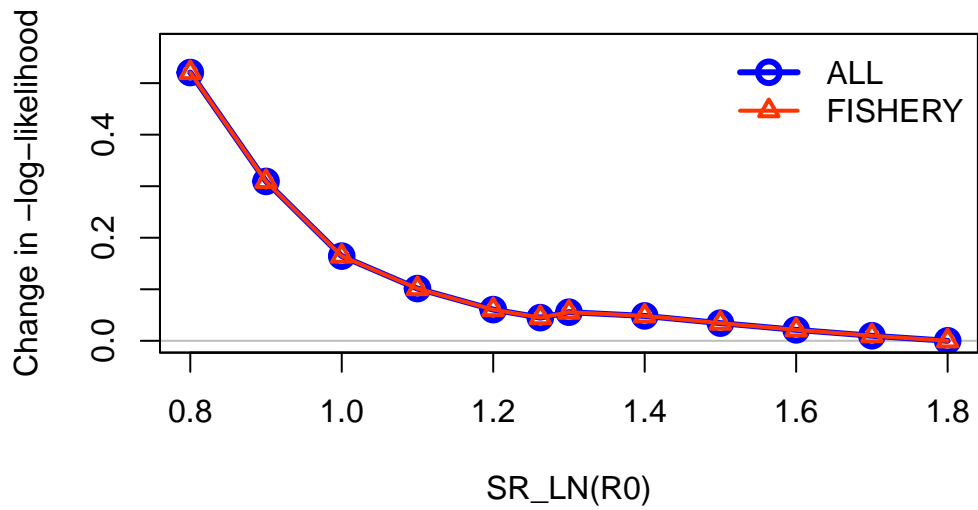
[1] "SR\_LN"

	frac_change	include	label
TOTAL	1.0000	TRUE	Total
Catch	0.7369	TRUE	Catch
Equil_catch	0.0000	FALSE	Equilibrium catch
Survey	0.0239	TRUE	Index data
Length_comp	0.2417	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	0.0006	FALSE	Priors

Parm_softbounds	0.0000	FALSE	Soft bounds
Parm_devs	0.0000	FALSE	Parameter deviations
Crash_Pen	0.0000	FALSE	Crash penalty

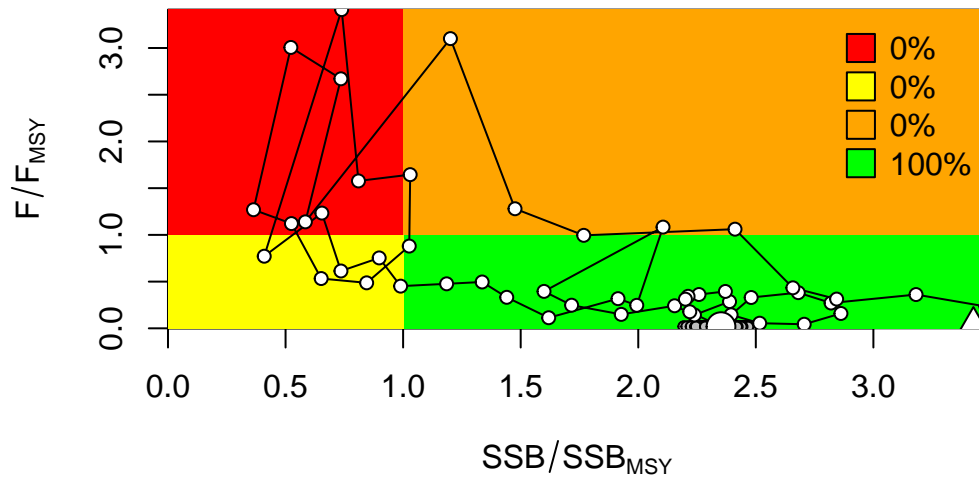


### Changes in survey likelihood by fleet

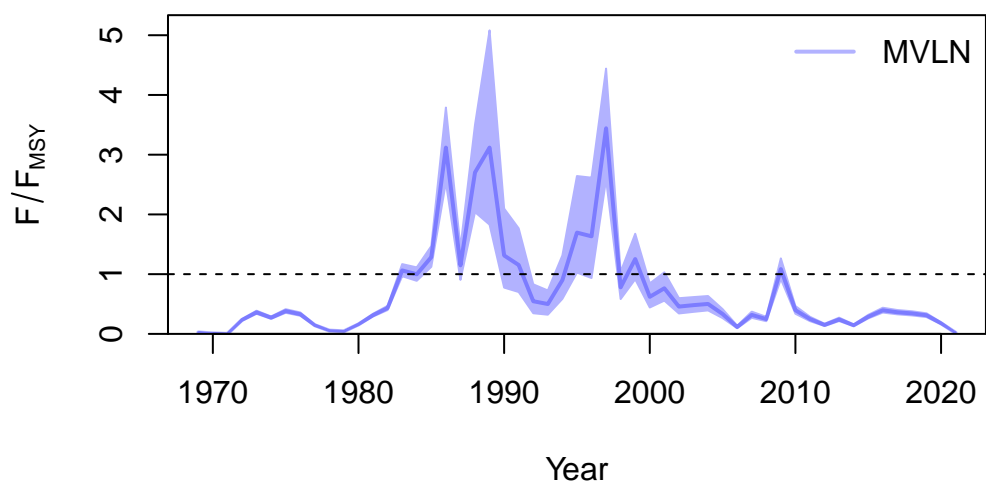
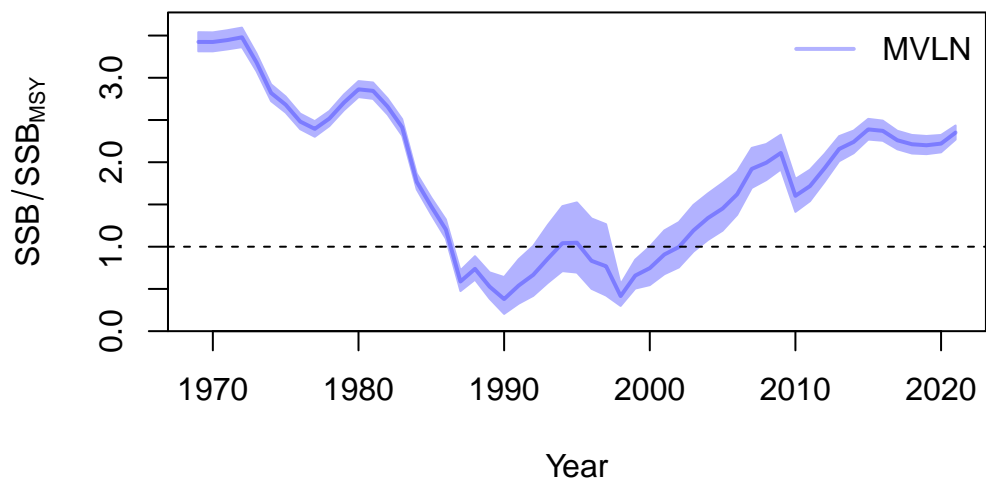


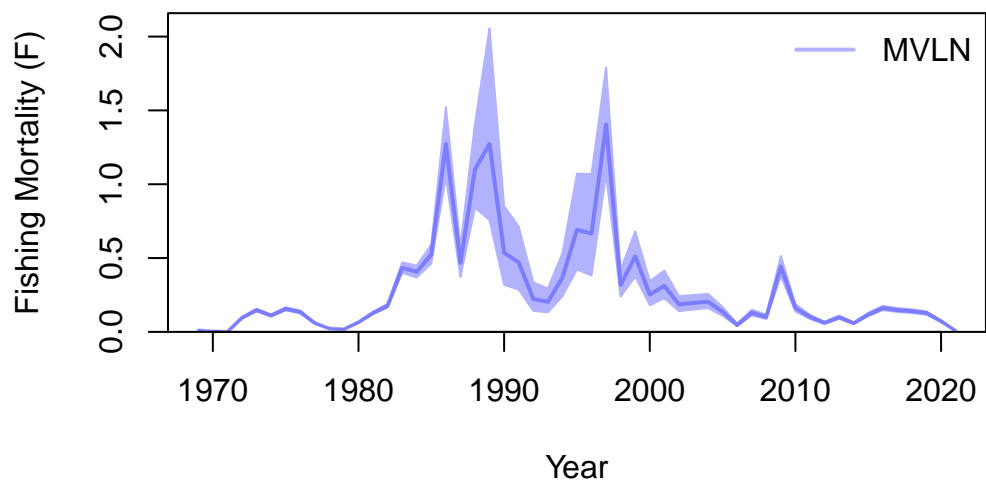
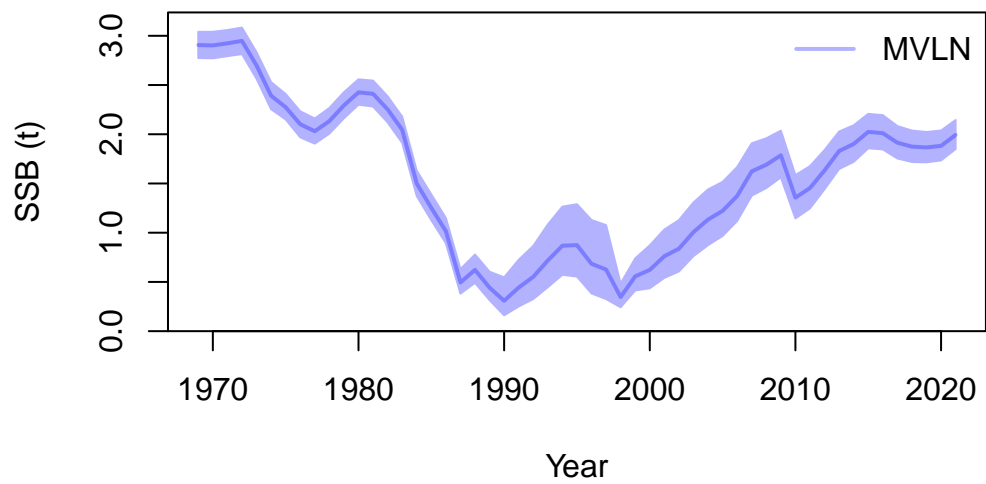
## Management Quantities

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



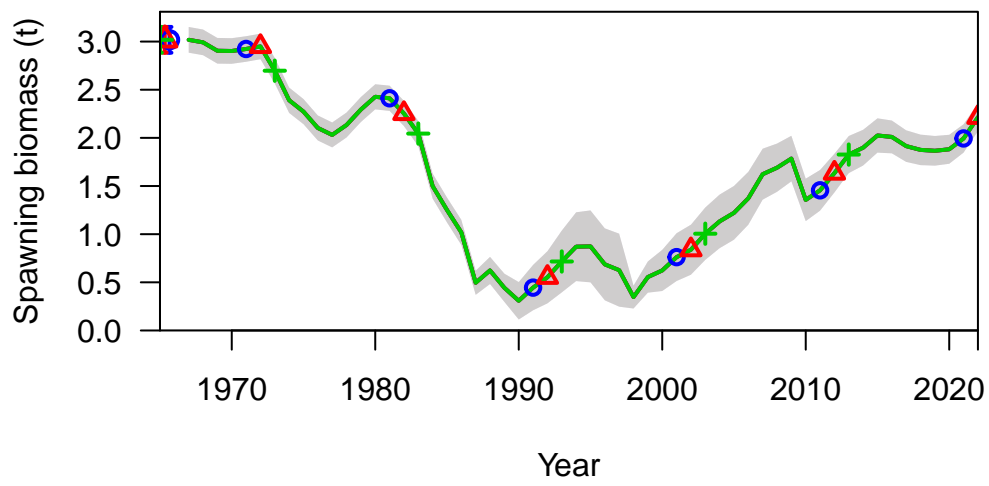
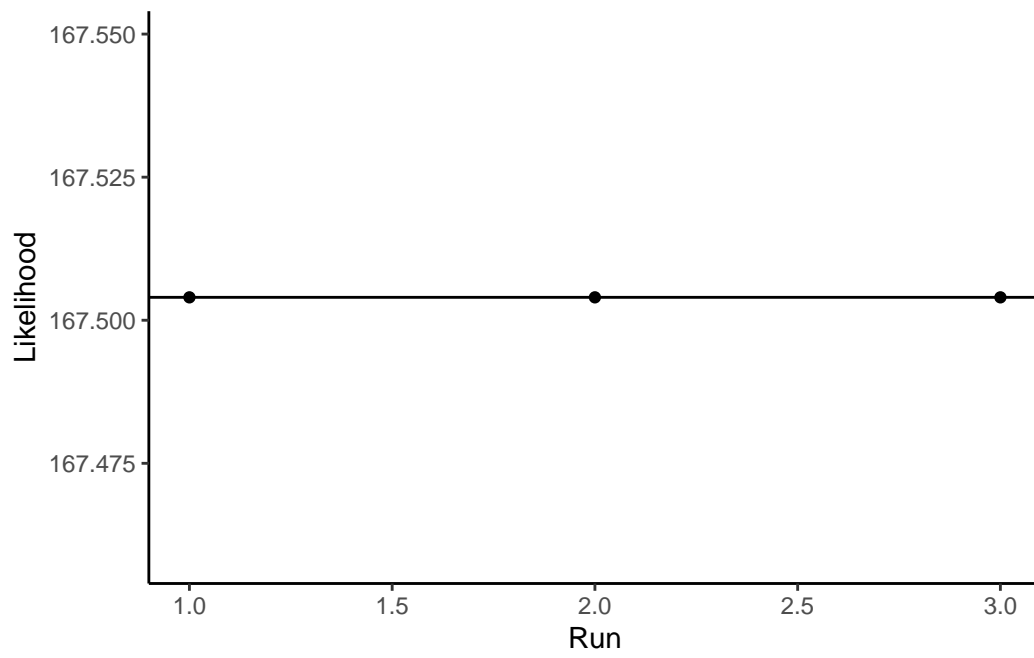


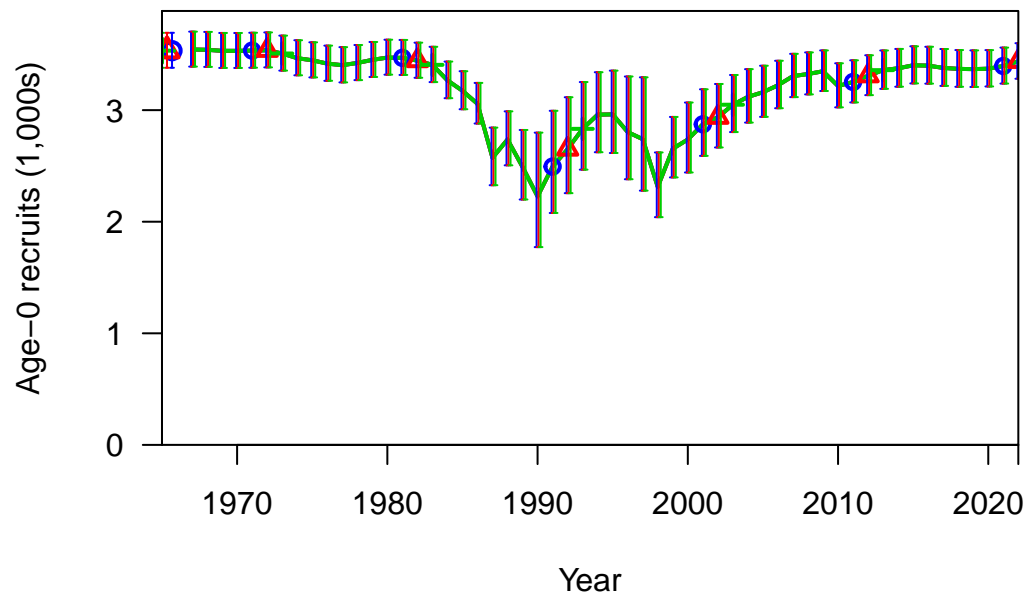
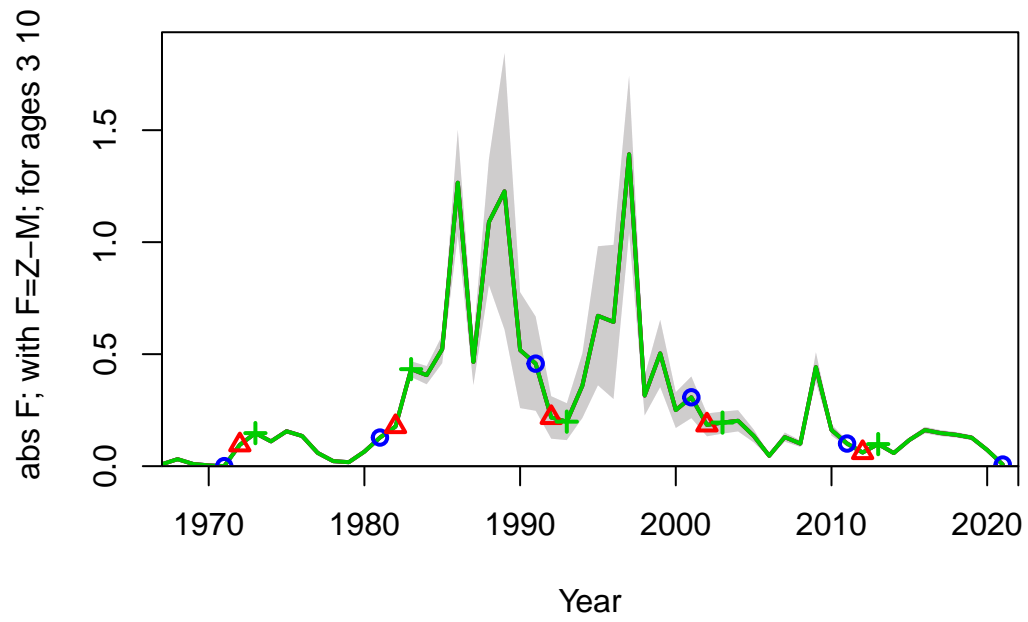




null device  
1

### Jitter





**Selectivity and Maturity**

