

# American Samoa Model Checks

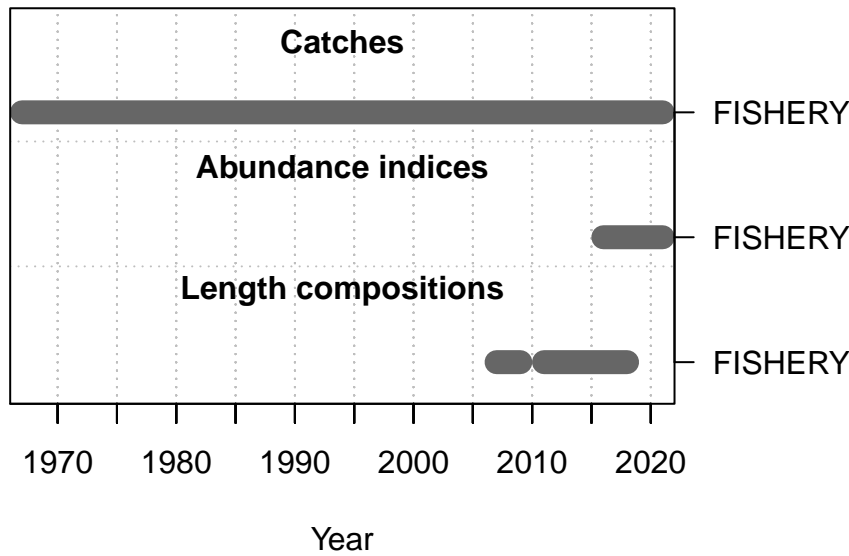
Marc Nadon and Meg Oshima

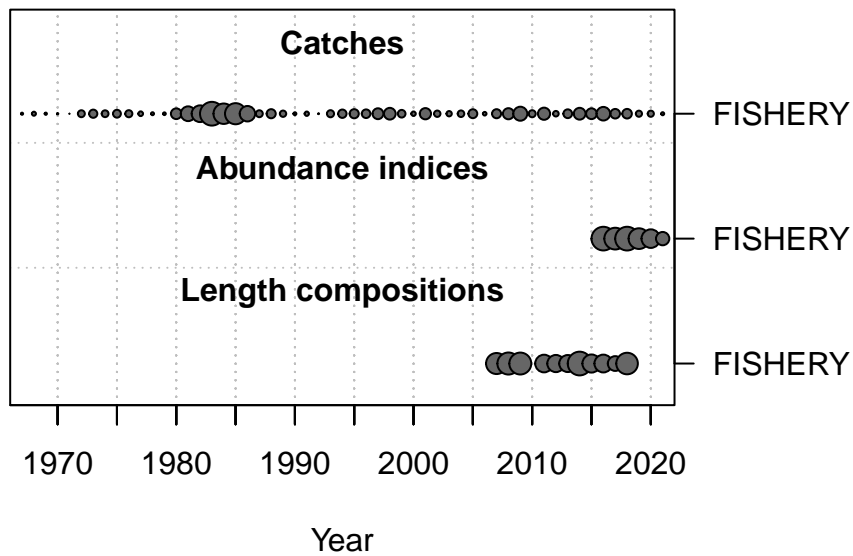
2023-01-10

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

## Model Output

### Input Data





### Convergence Check

```

Converged      MaxGrad
1      TRUE 2.52587e-05

```

```

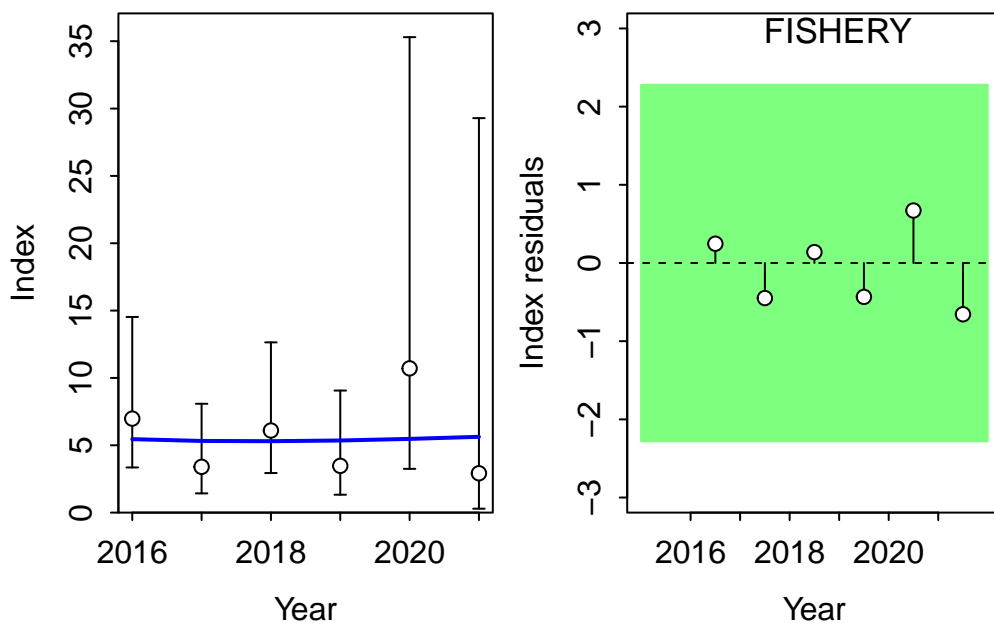
[1] "1 NOTE: Max data length bin: 90 < max pop len bins: 100; so will accumulate larger pop
[2] "N warnings: 1"

```

### Fit to Model

#### CPUE

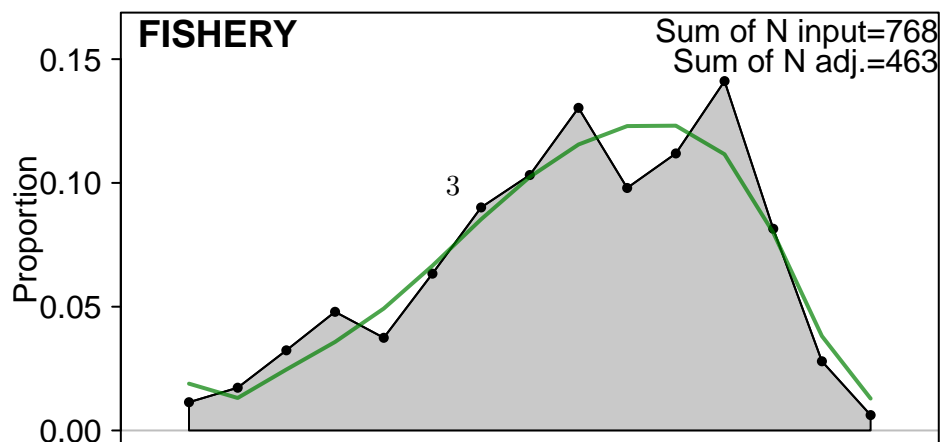
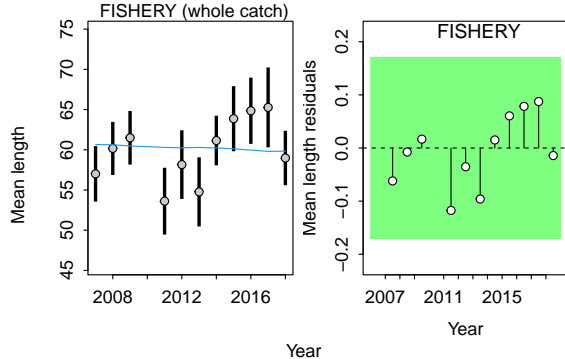
Fleet	RMSE.perc	Nobs
FISHERY	47.4	6
Combined	47.4	6

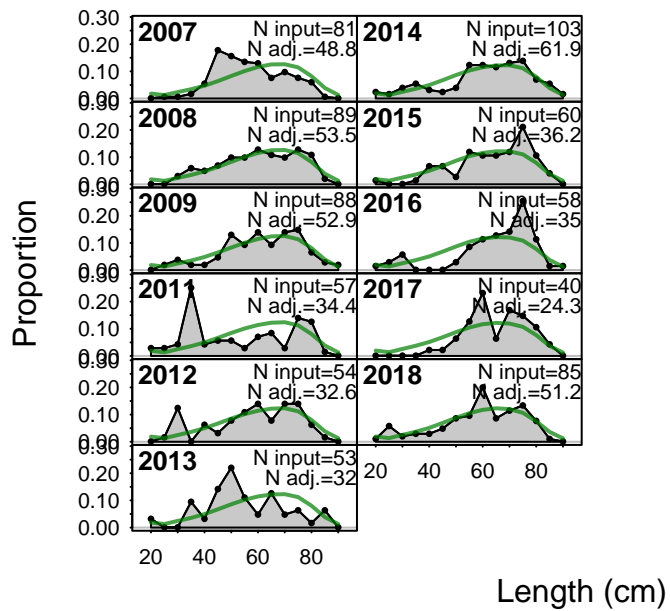


## Length Comp

Fleet	RMSE.perc	Nobs
FISHERY	6.5	11
Combined	6.5	11

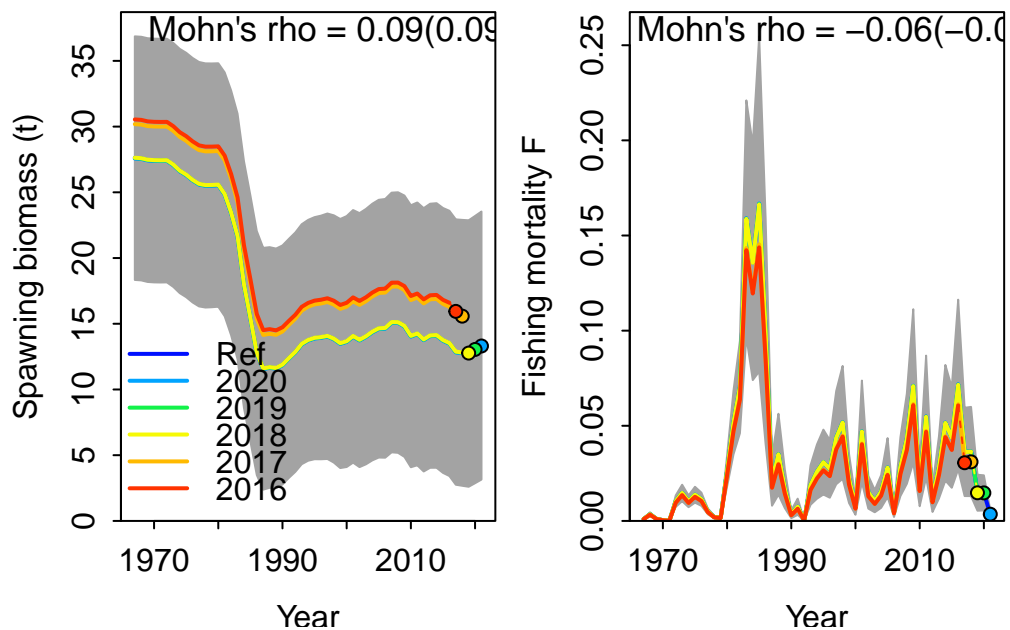
w lo hi Index runs.p test sigma3.lo sigma3.hi type  
 0.2704271 0.1851812 0.6776707 1 FISHERY 0.175 Passed -0.1704781 0.1704781 len





## 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	0.0020418131	0.0019905710
2	F	2019	-0.0006746773	-0.0006647764
3	F	2018	-0.0021162397	-0.0020982465
4	F	2017	-0.1480366286	-0.1486110121
5	F	2016	-0.1532860768	-0.1567581280
6	F Combined		-0.0604143619	-0.0612283184

## Hindcasting

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

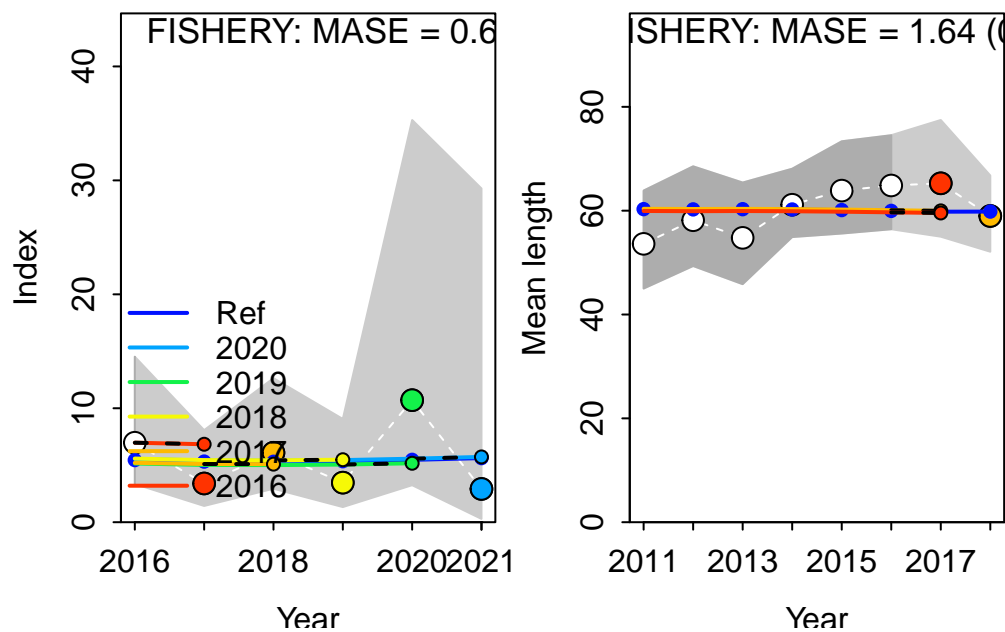
Computing MASE with all 5 of 5 prediction residuals for Index FISHERY

MASE stats by Index:

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

Computing MASE with only 2 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	1.636538	0.0882265	0.05391045	0.882265	2

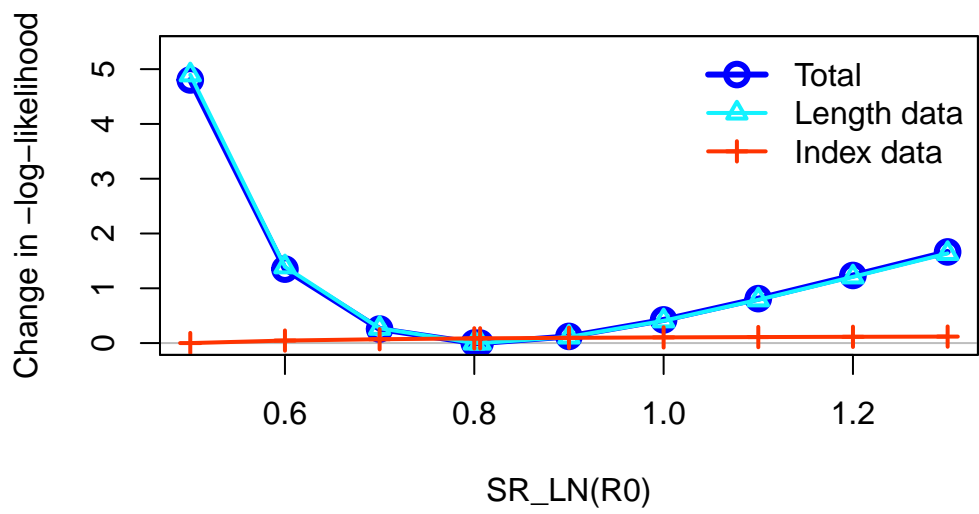
## Recruitment Deviations

### Likelihood Profile

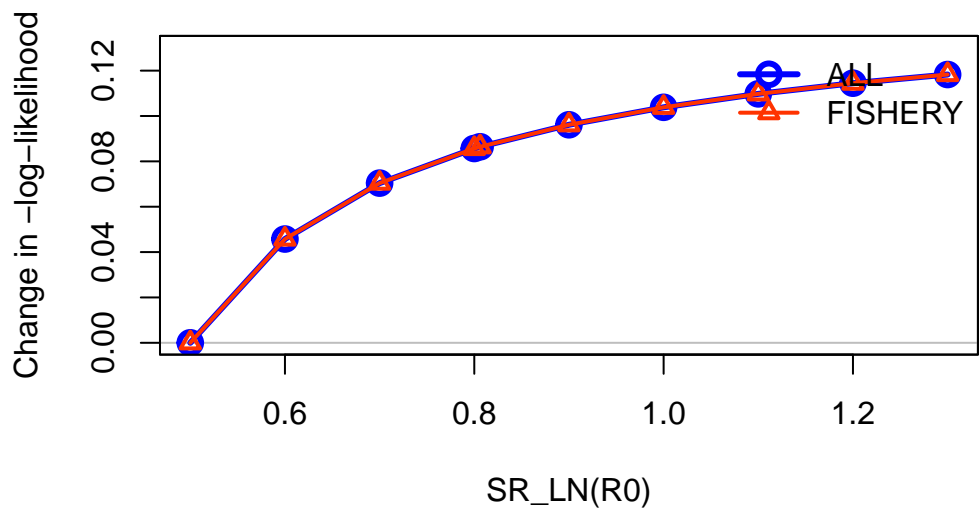
```
[1] "SR_LN"
```

	frac_change	include	label
TOTAL	1.0000	TRUE	Total
Catch	0.0000	FALSE	Catch
Equil_catch	0.0000	FALSE	Equilibrium catch
Survey	0.0246	TRUE	Index data
Length_comp	1.0196	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	0.0018	FALSE	Priors

Parm_softbounds	0.0001	FALSE	Soft bounds
Parm_devs	0.0000	FALSE	Parameter deviations
Crash_Pen	0.0000	FALSE	Crash penalty

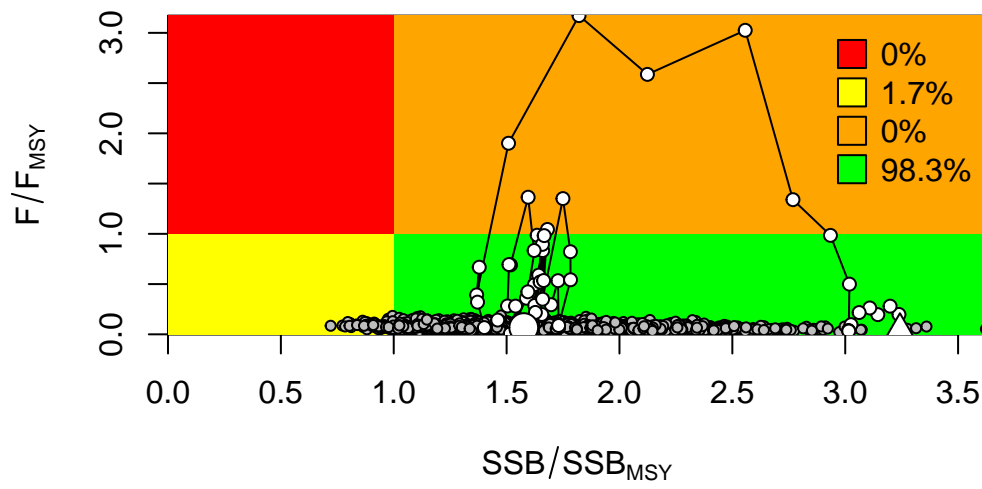


Changes in survey likelihood by fleet

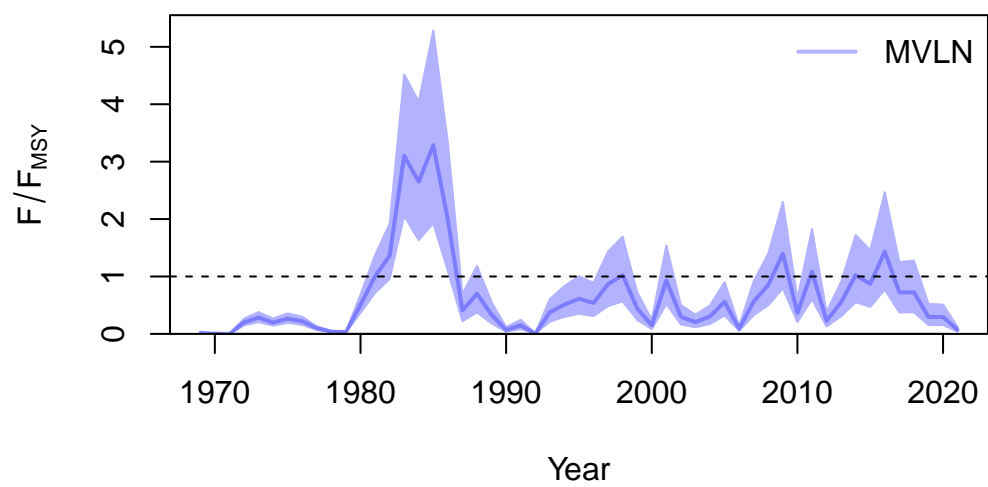
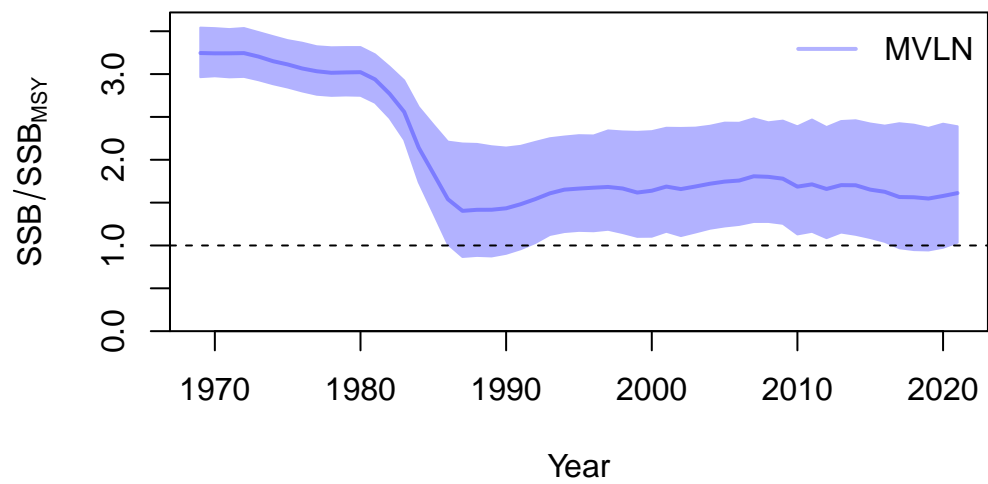


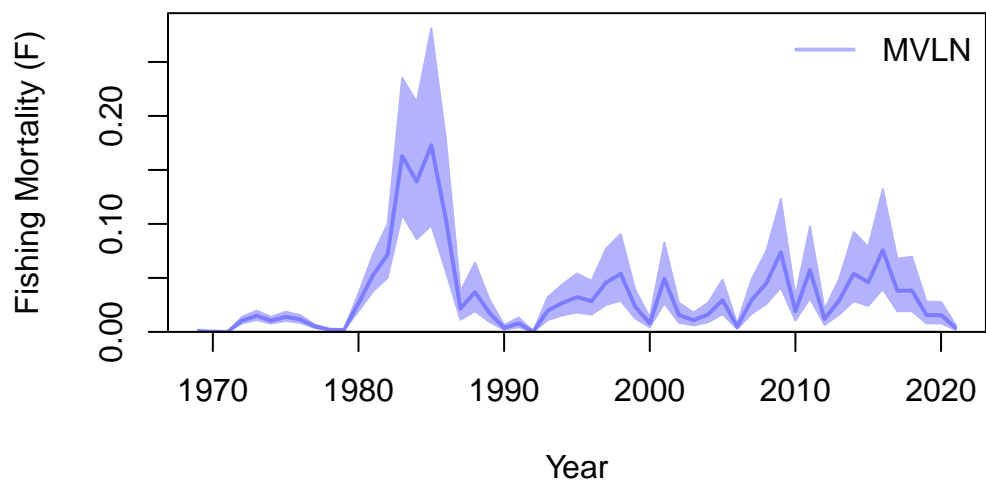
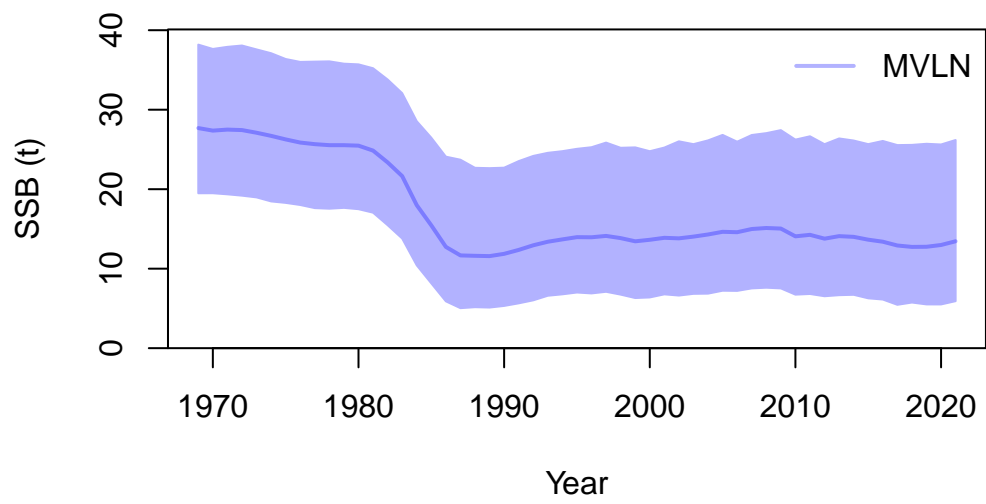
## Management Quantities

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



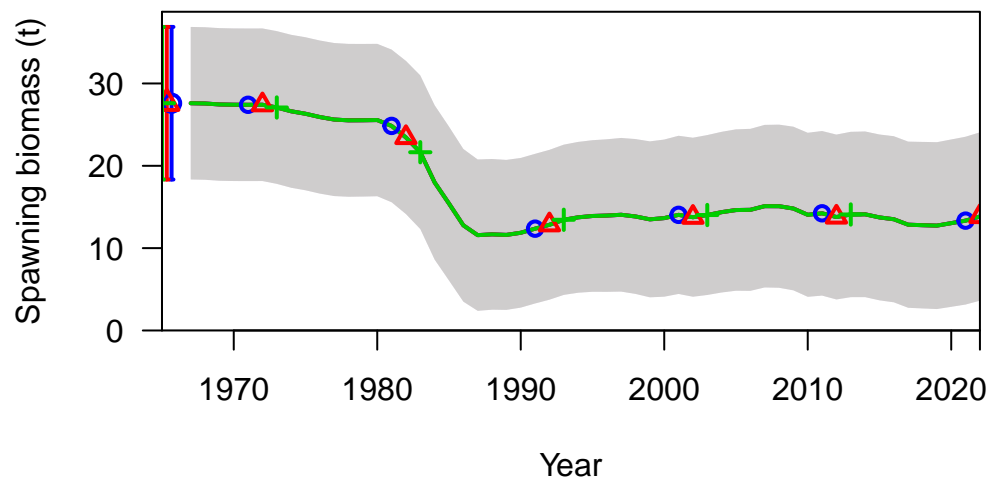
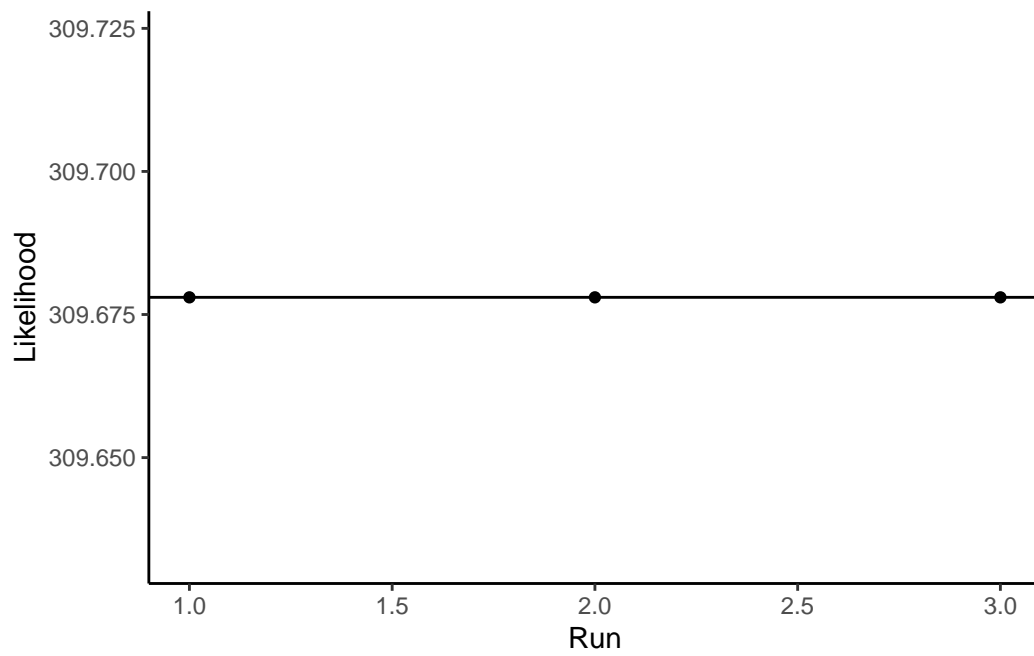


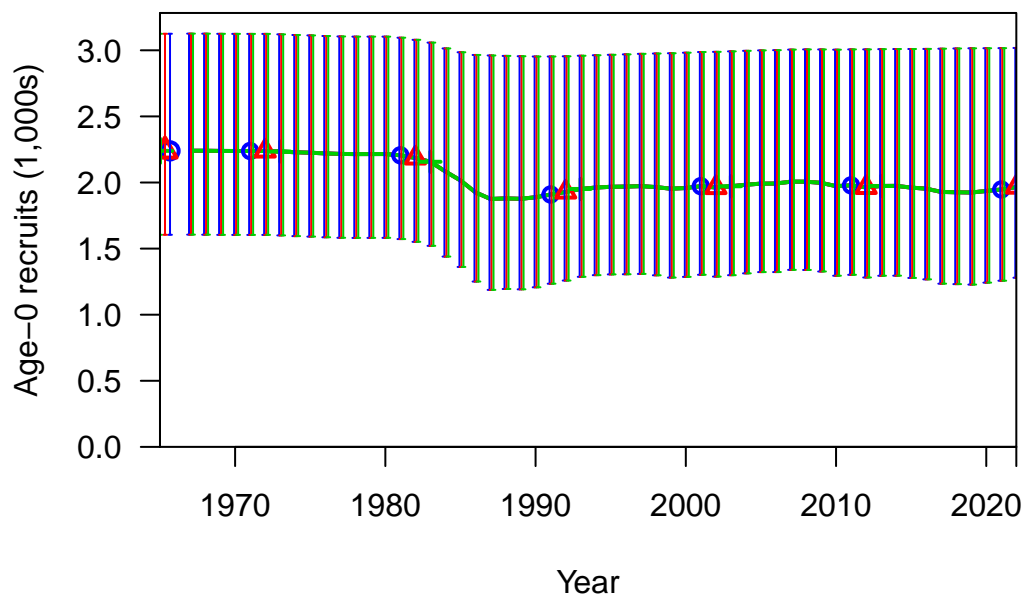
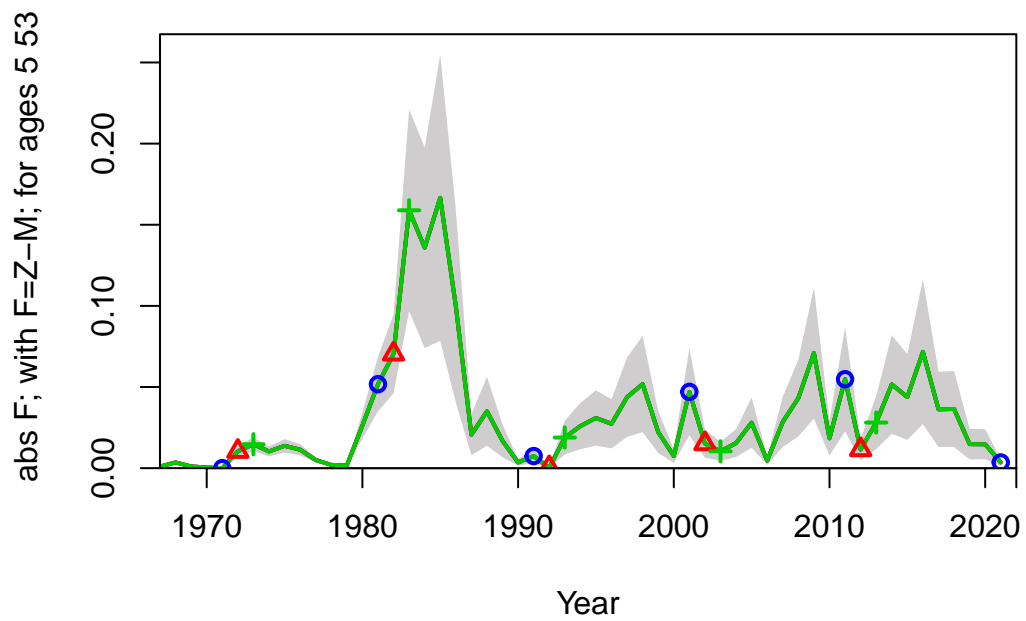




null device  
1

### Jitter





**Selectivity and Maturity**

