

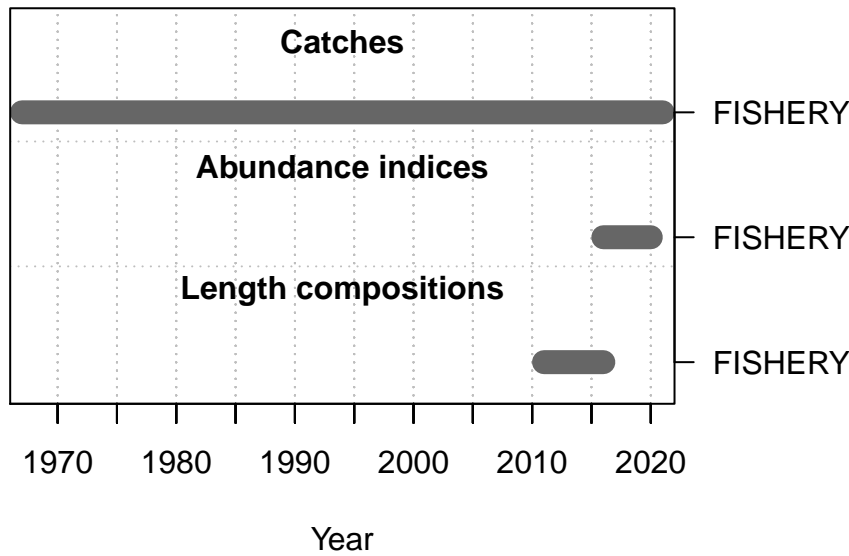
# American Samoa Model Checks

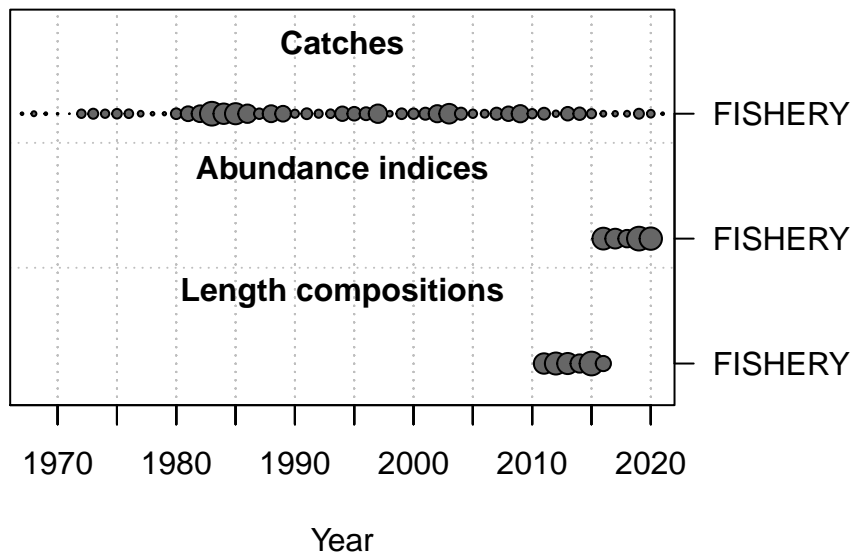
2022-10-07

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

## Model Output

### Input Data





### Convergence Check

```

Converged    MaxGrad
1          TRUE 7.121e-06

```

```

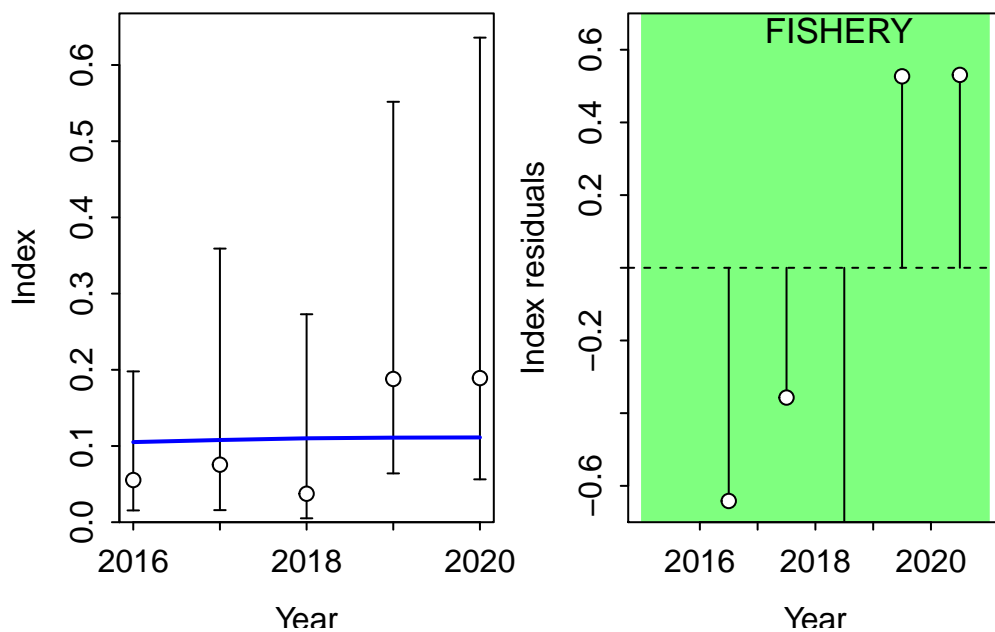
[1] "1 NOTE: Max data length bin: 51 < max pop len bins: 57; so will accumulate larger pop
[2] "2 warning: poor convergence in Fmsy, final dy/dy2= 0.0011134"
[3] "N warnings: 2"

```

### Fit to Model

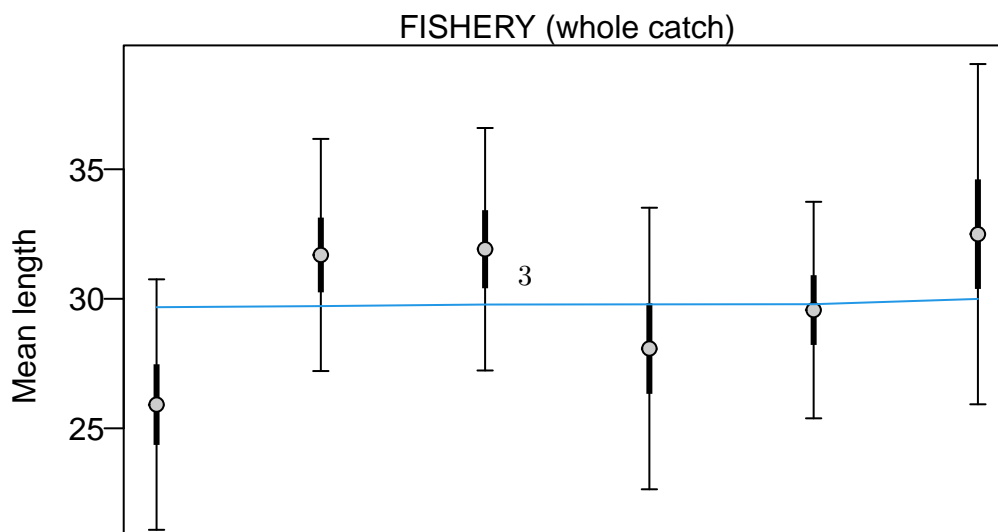
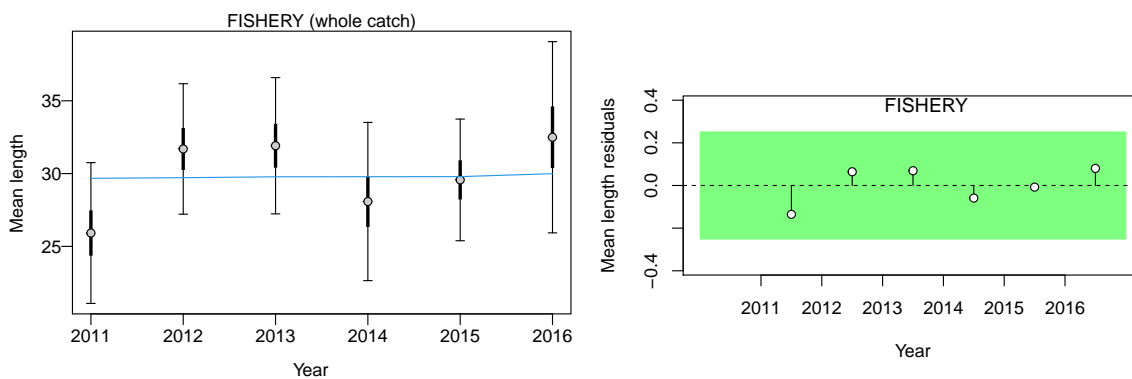
#### CPUE

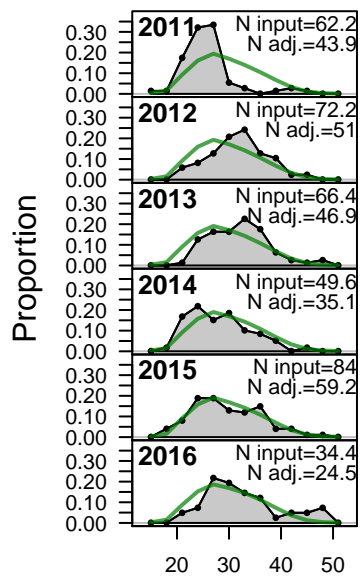
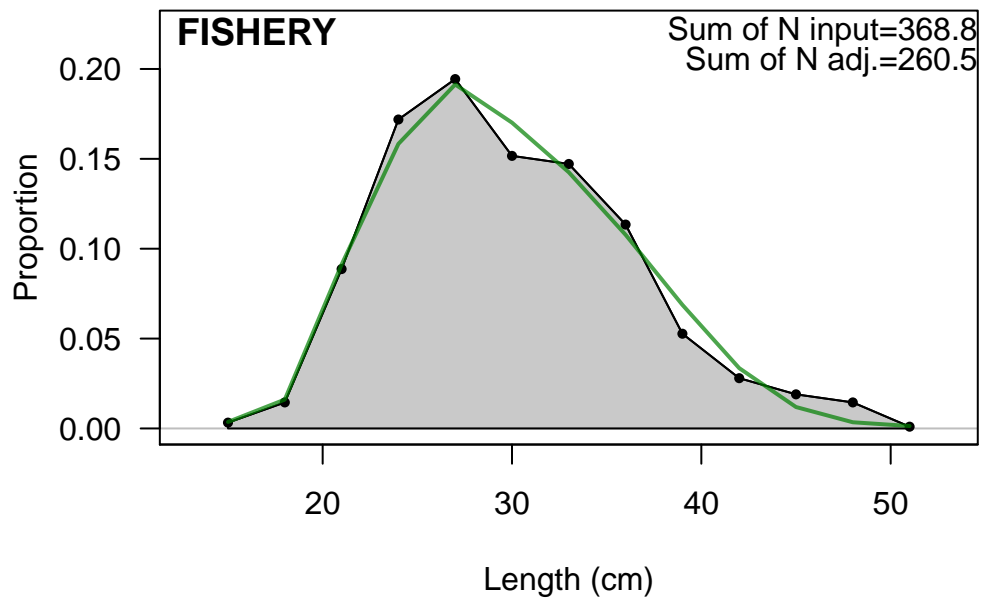
Fleet	RMSE.perc	Nobs
FISHERY	67.3	5
Combined	67.3	5



## Length Comp

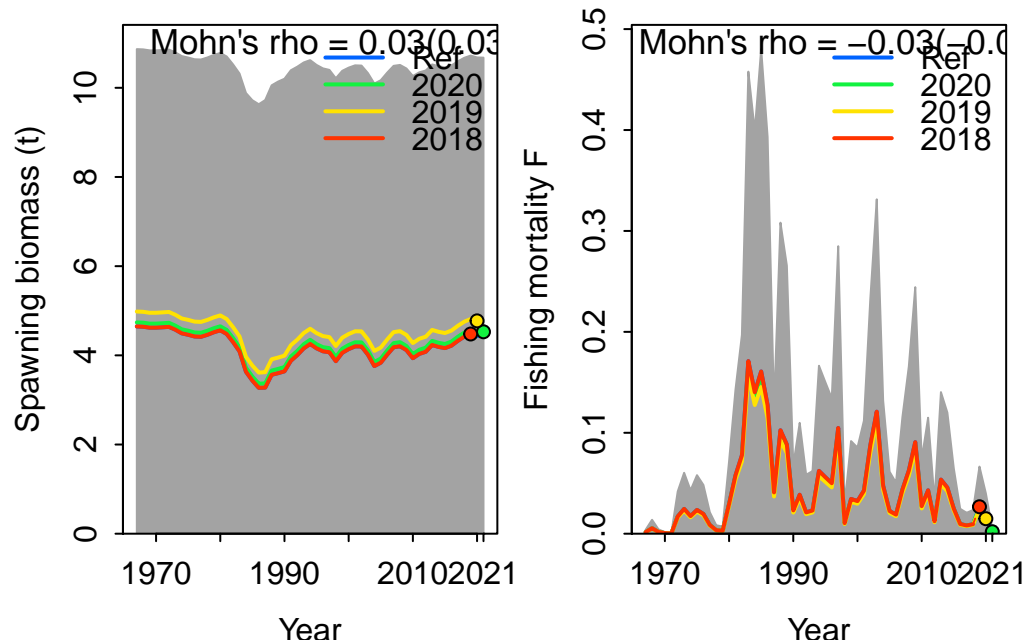
Fleet	RMSE.perc	Nobs
FISHERY	7.9	6
Combined	7.9	6





## Retrospective

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



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

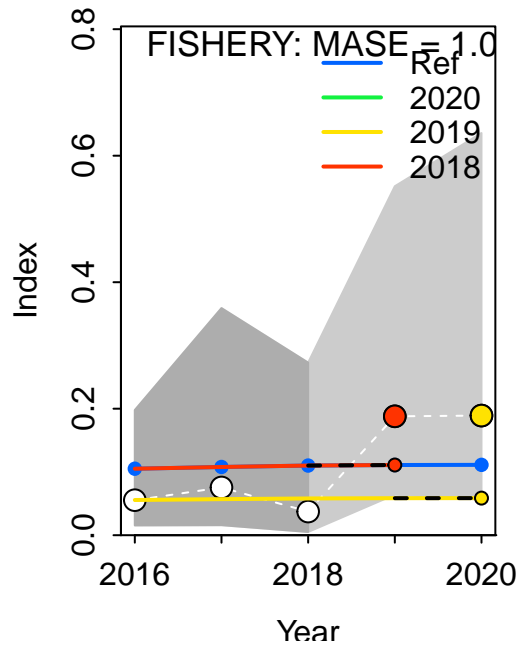
	type	peel	Rho	Forecast	Rho
1	F	2020	-0.02116125	-0.02090267	
2	F	2019	-0.07409419	-0.07390237	
3	F	2018	0.00000000	0.00000000	
4	F Combined		-0.03175181	-0.03160168	

## Hindcasting

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

Computing MASE with only 2 of 3 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

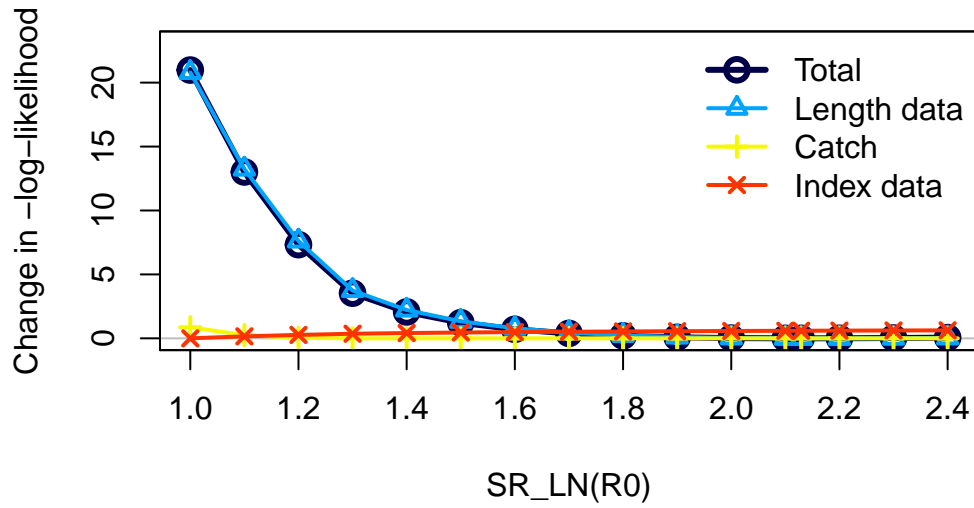
MASE stats by Index:

## Recruitment Deviations

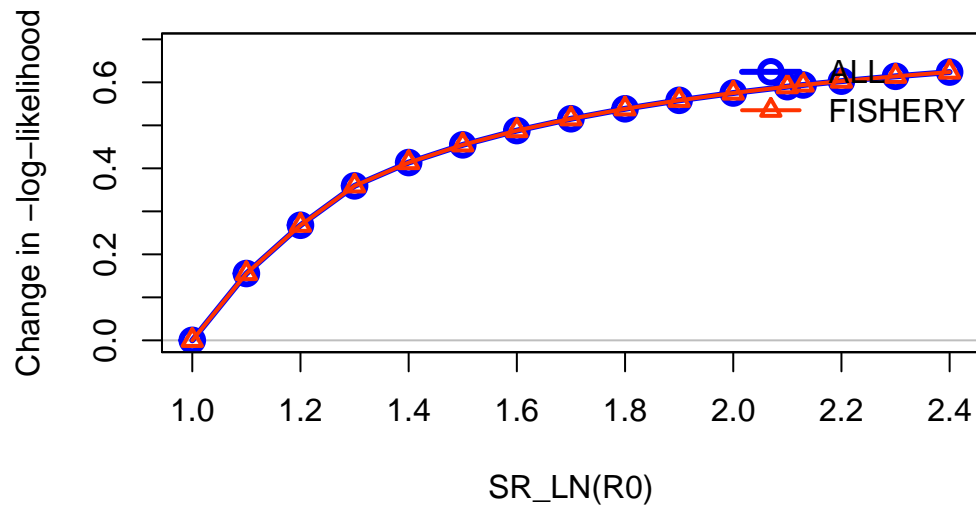
## Likelihood Profile

[1] "SR_LN"			
	frac_change	include	label
TOTAL	1.0000	TRUE	Total
Catch	0.0411	TRUE	Catch
Equil_catch	0.0000	FALSE	Equilibrium catch
Survey	0.0297	TRUE	Index data
Length_comp	0.9911	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	0.0053	FALSE	Priors
Parm_softbounds	0.0001	FALSE	Soft bounds
Parm_devs	0.0000	FALSE	Parameter deviations
Crash_Pen	0.0000	FALSE	Crash penalty



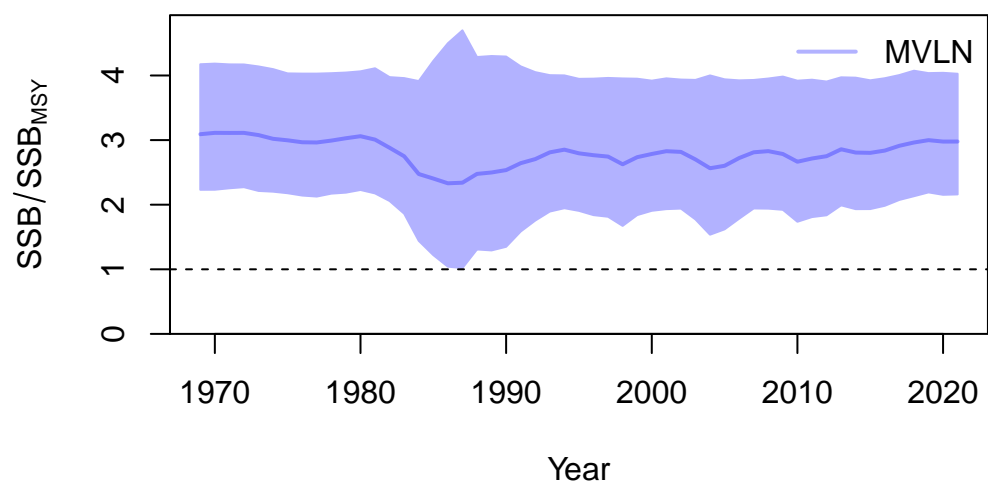
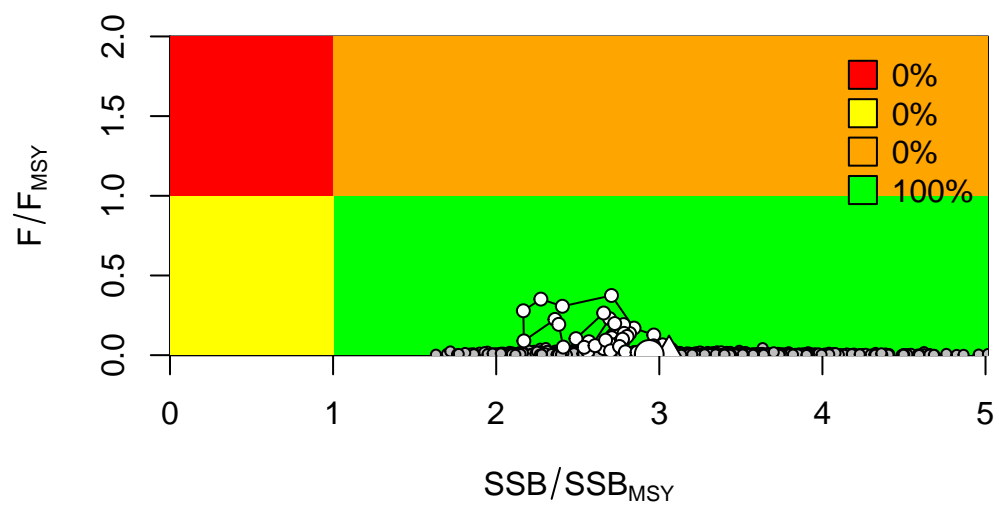
## Changes in survey likelihood by fleet

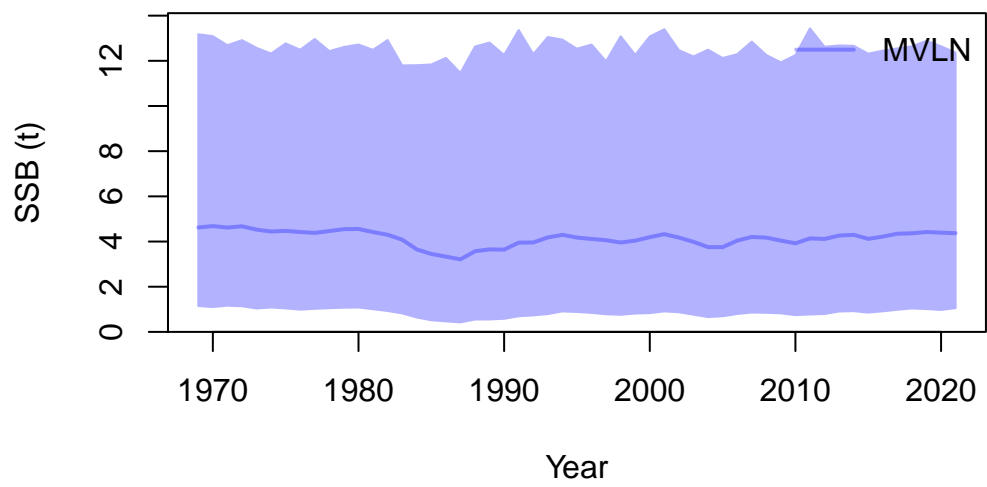
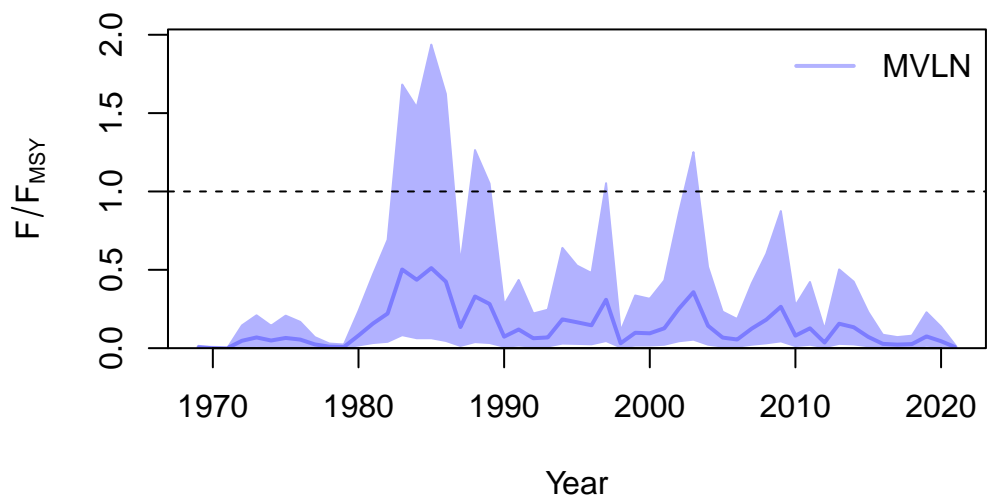


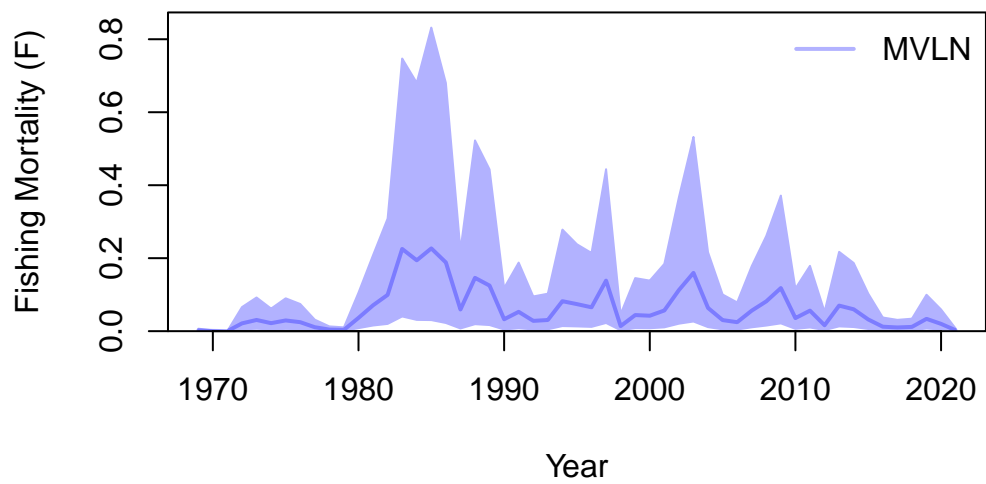
## Management Quantities

starter.sso with Bratio:  $SSB/SSB_{MSY}$  and F:  $_{abs\_F}$









null device  
1

**Jitter**

