

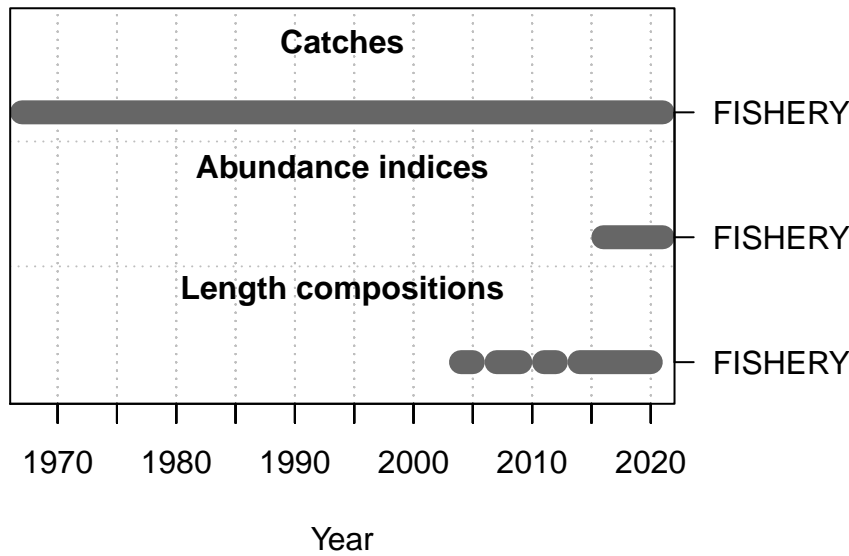
# American Samoa Model Checks

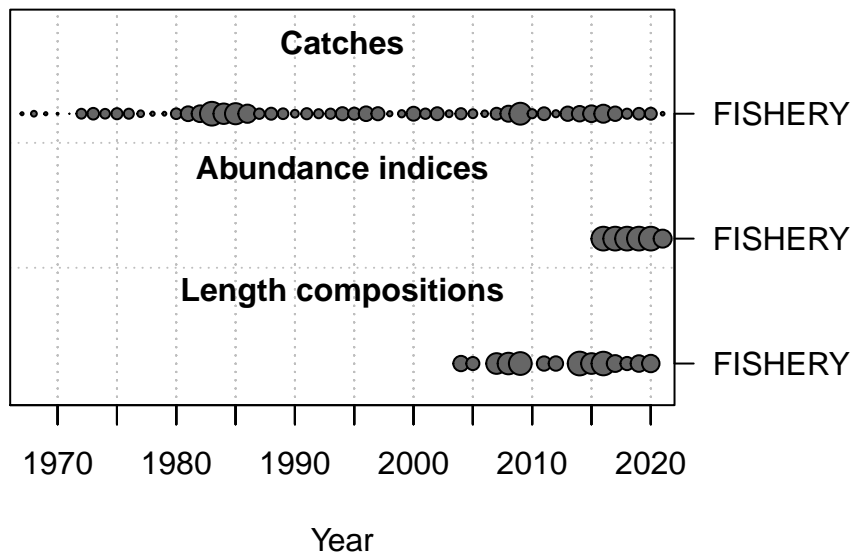
2022-08-26

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

## Model Output

### Input Data





### Convergence Check

```

Converged      MaxGrad
1      TRUE 6.77171e-05

```

```

[1] "1 NOTE: Max data length bin: 85 < max pop len bins: 94; so will accumulate larger pop
[2] "N warnings: 1"

```

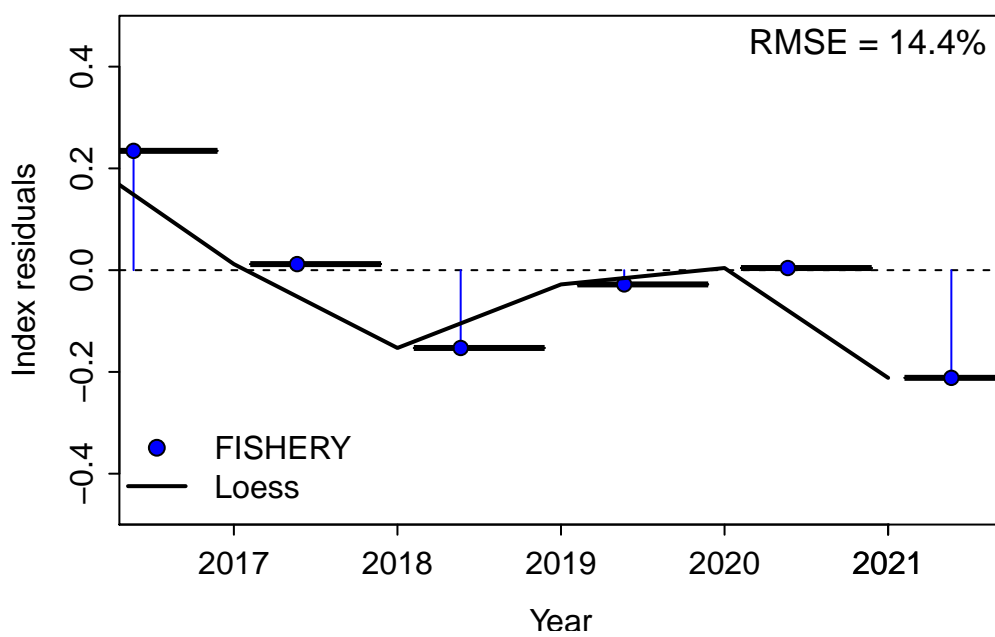
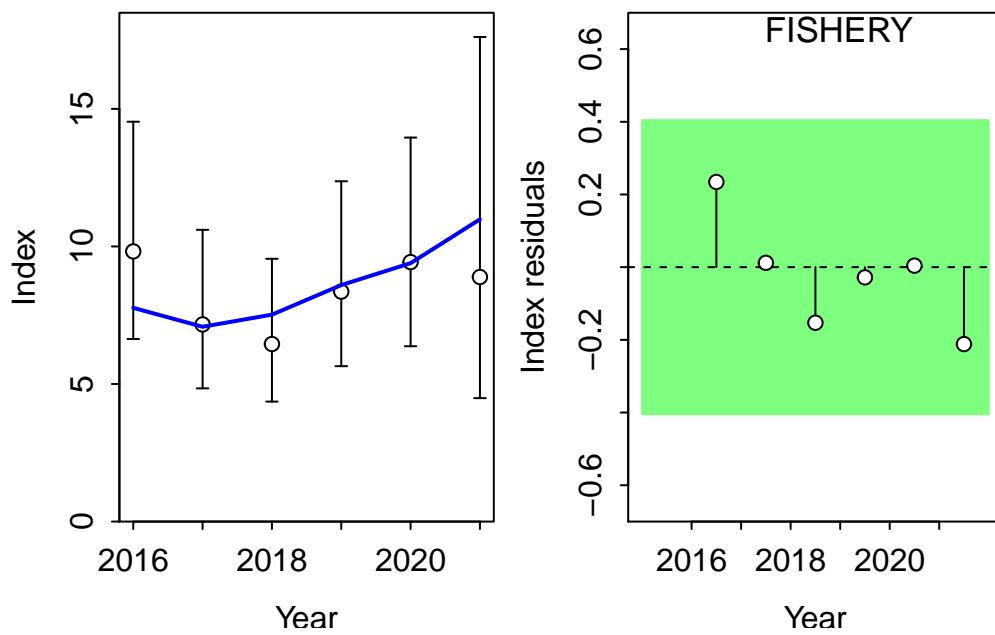
### Fit to Model

#### CPUE

Residual Runs Test (/w plot) stats by Index:

RMSE stats by Index:

#### Length Comp



#Factor	Fleet	New_Var_adj	Type	Name
4	1	0.308047	len	FISHERY

Residual Runs Test (/w plot) stats by Mean length:

```

Index runs.p  test  sigma3.lo  sigma3.hi type
1 FISHERY  0.313 Passed -0.09924813 0.09924813 len

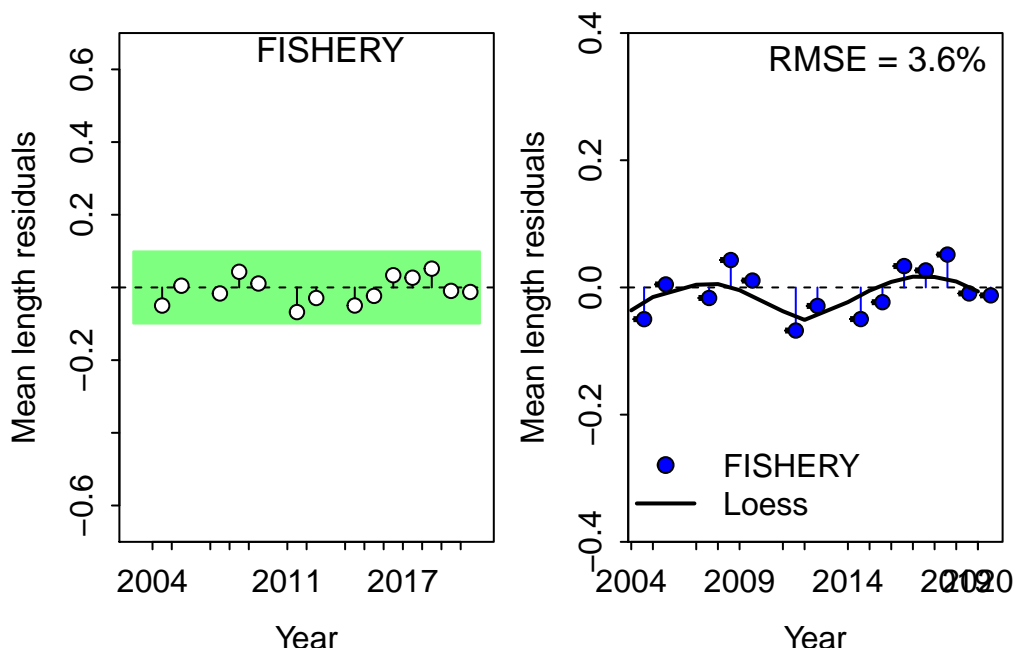
```

RMSE stats by Index:

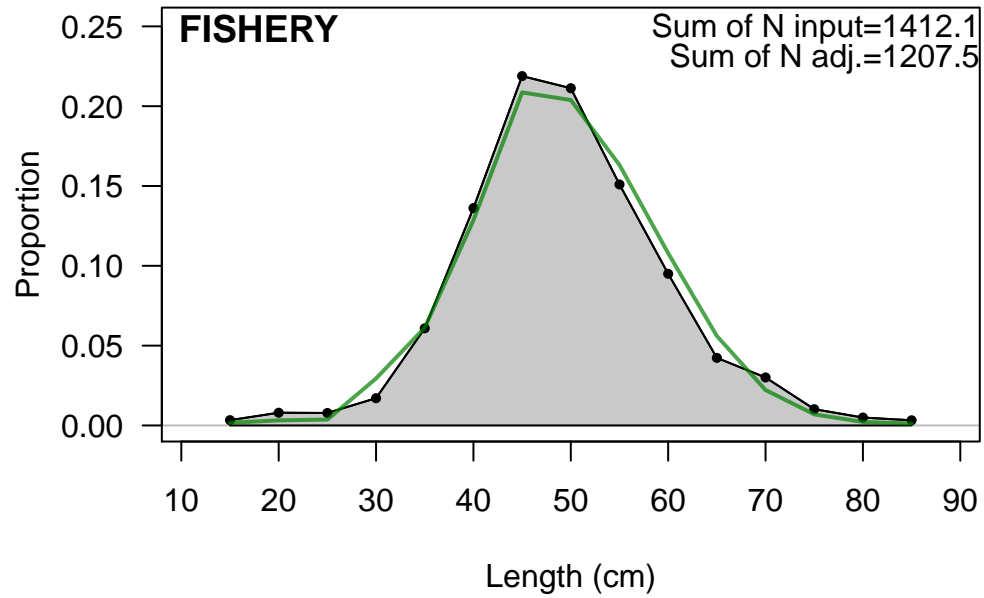
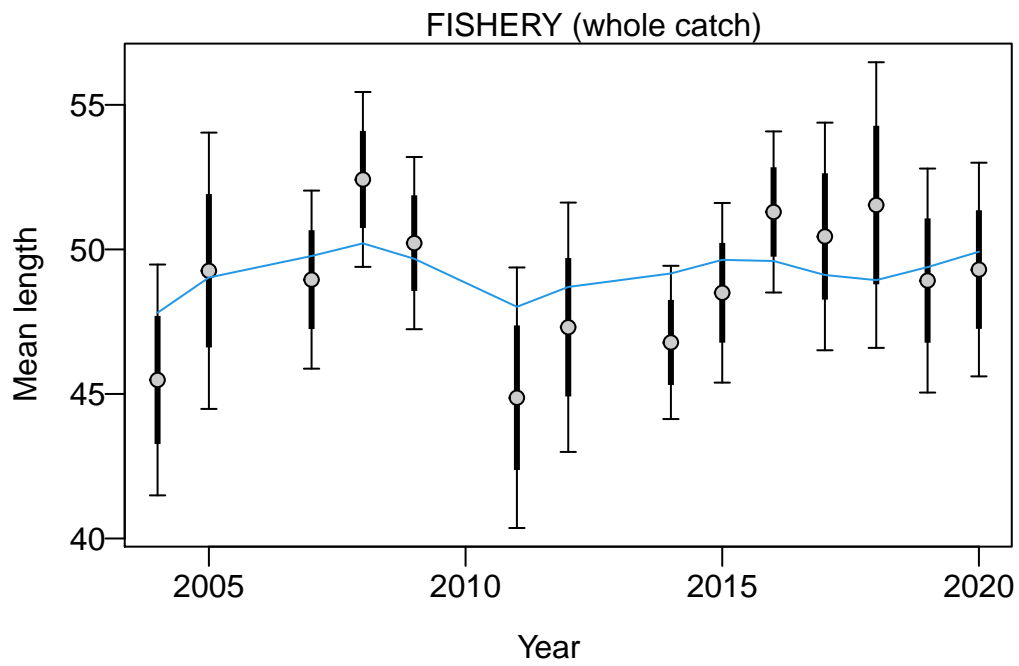
```

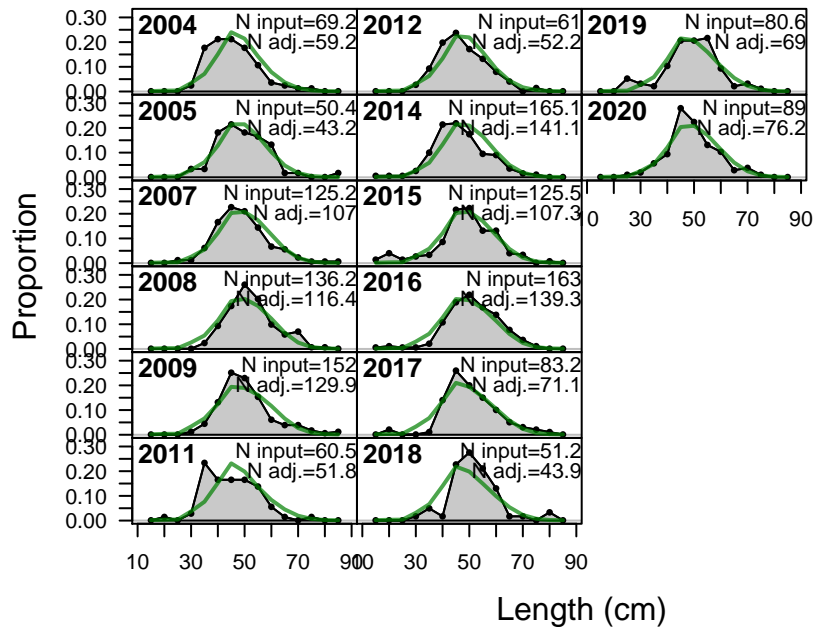
# A tibble: 2 x 3
  Fleet    RMSE.perc  Nobs
  <chr>      <dbl> <int>
1 FISHERY      3.6     14
2 Combined      3.6     14

```



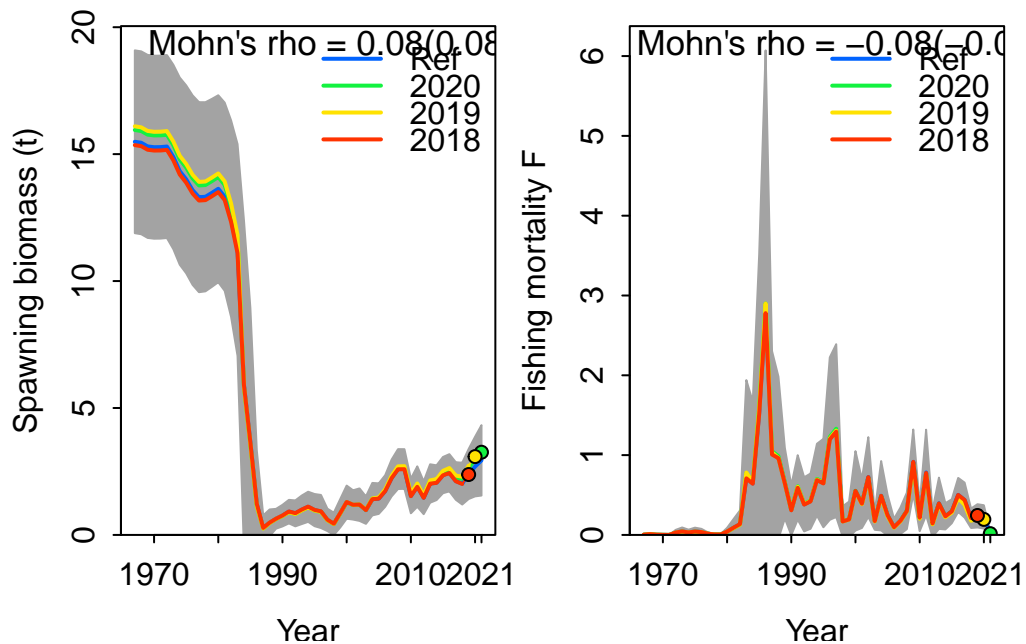
**Retrospective and Hindcasting**





## Retrospective

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



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

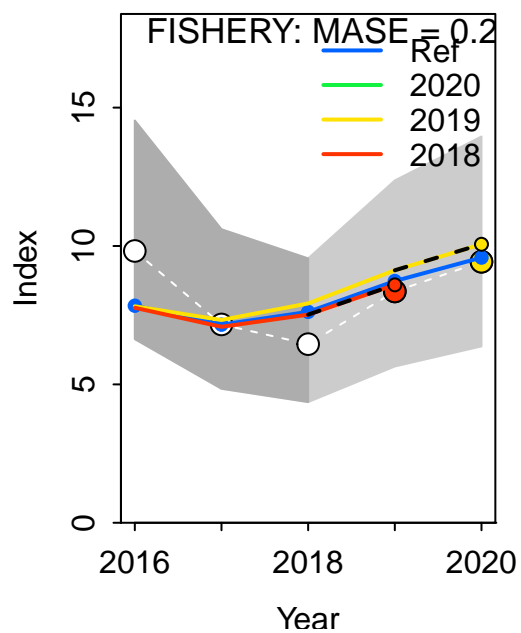
	type	peel	Rho	ForecastRho
1	F	2020	-0.098897746	-0.09017102
2	F	2019	-0.157156045	-0.13921202
3	F	2018	0.009927283	0.01896416
4	F Combined		-0.082042169	-0.07013963

## 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



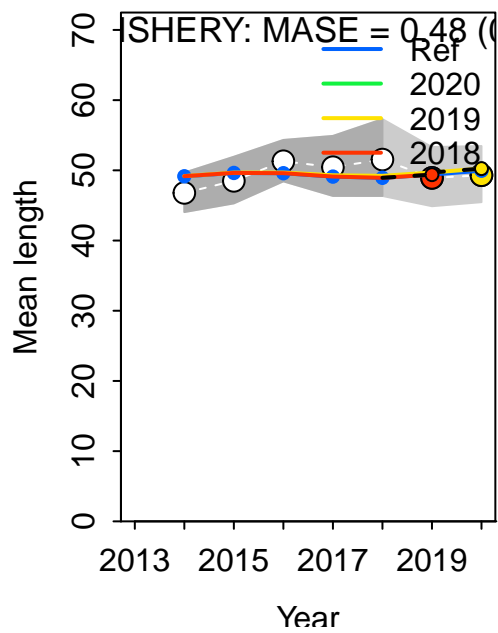
MASE stats by Index:

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

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:



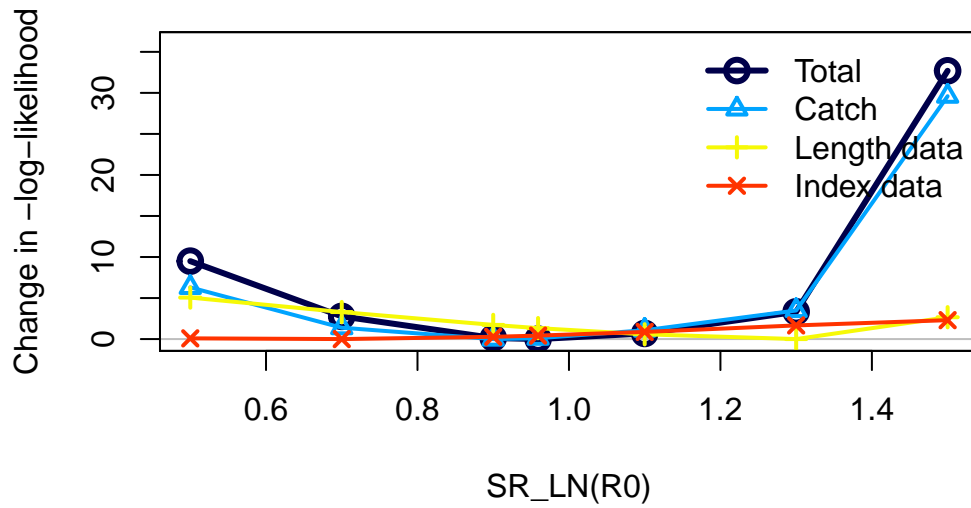
## Recruitment Deviations

### Likelihood Profile

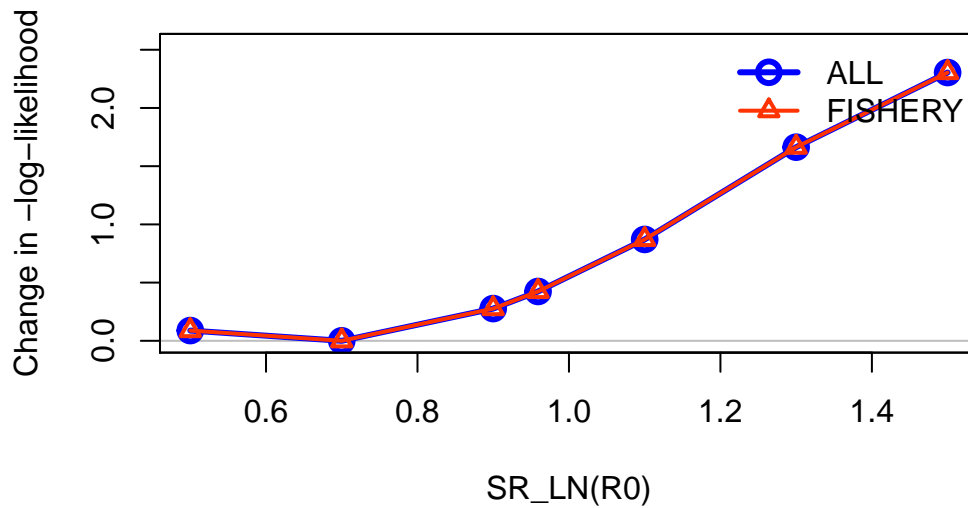
[1] "SR_LN"				
	frac_change	include		label
TOTAL	1.0000	TRUE		Total
Catch	0.9054	TRUE		Catch
Equil_catch	0.0000	FALSE	Equilibrium catch	
Survey	0.0705	TRUE		Index data
Length_comp	0.1547	TRUE		Length data
Recruitment	0.0000	FALSE		Recruitment
InitEQ_Regime	0.0000	FALSE	Initital equilibrium	recruitment
Forecast_Recruitment	0.0000	FALSE	Forecast recruitment	
Parm_priors	0.0039	FALSE		Priors



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

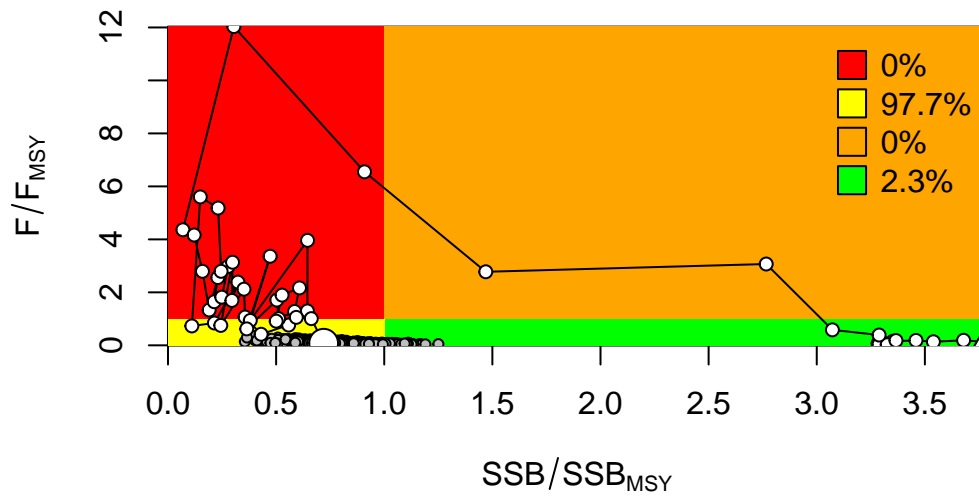


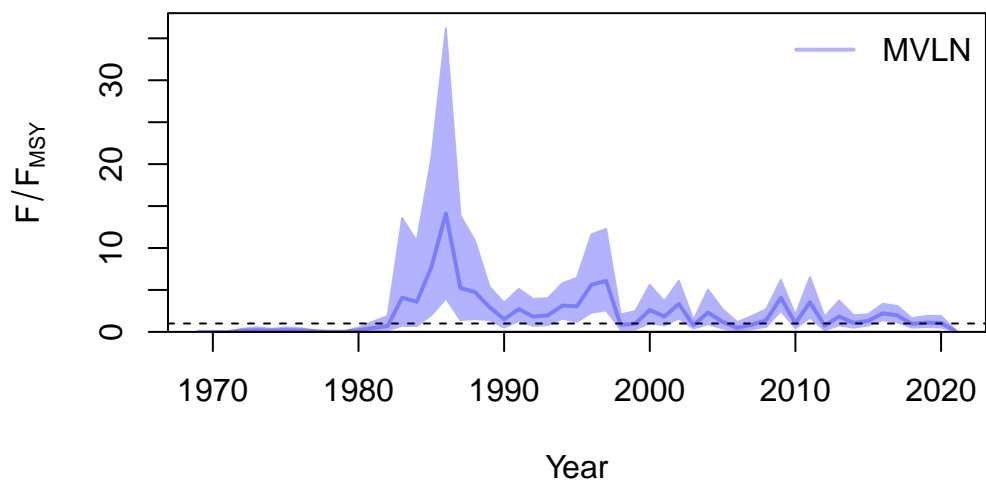
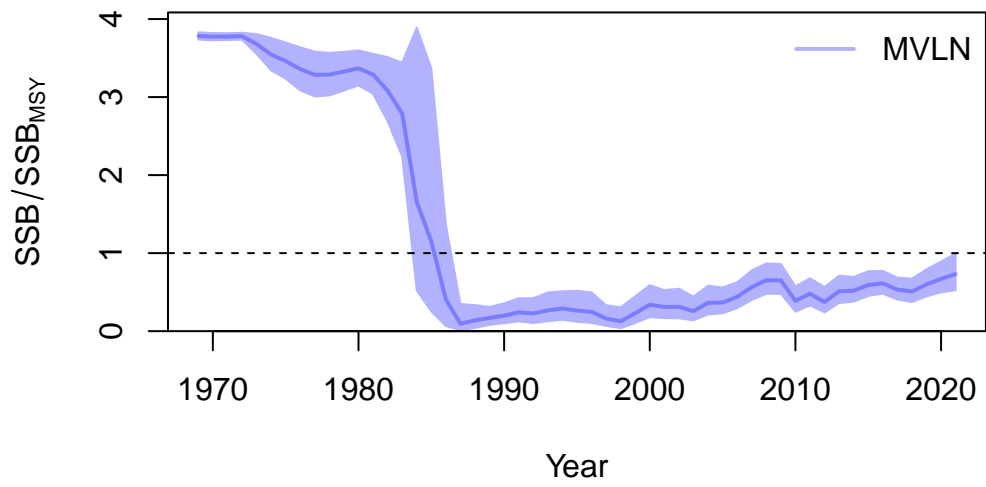
### Changes in survey likelihood by fleet

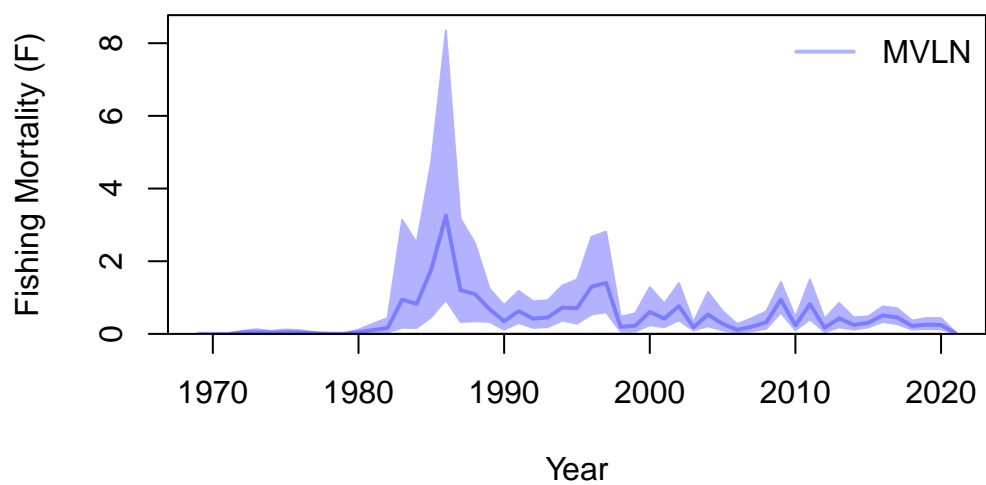
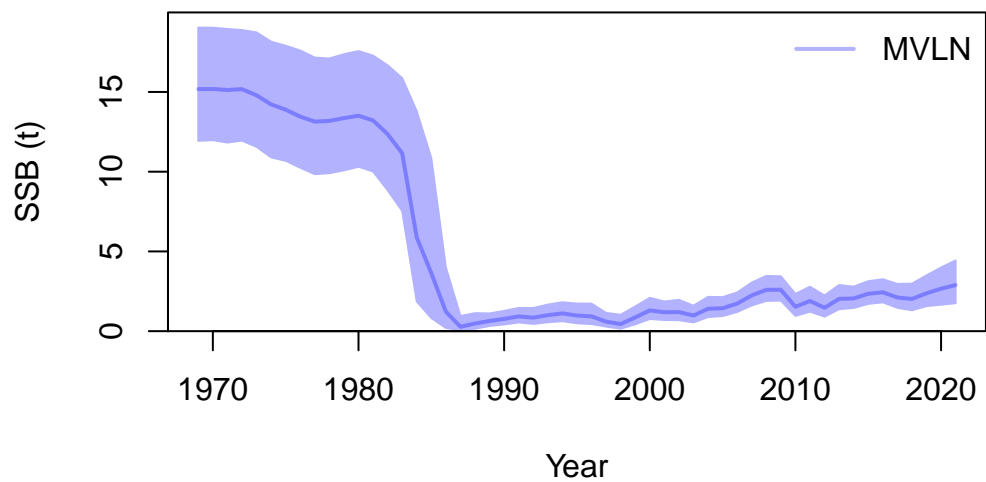


## Management Quantities

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







null device  
1

### Jitter

