

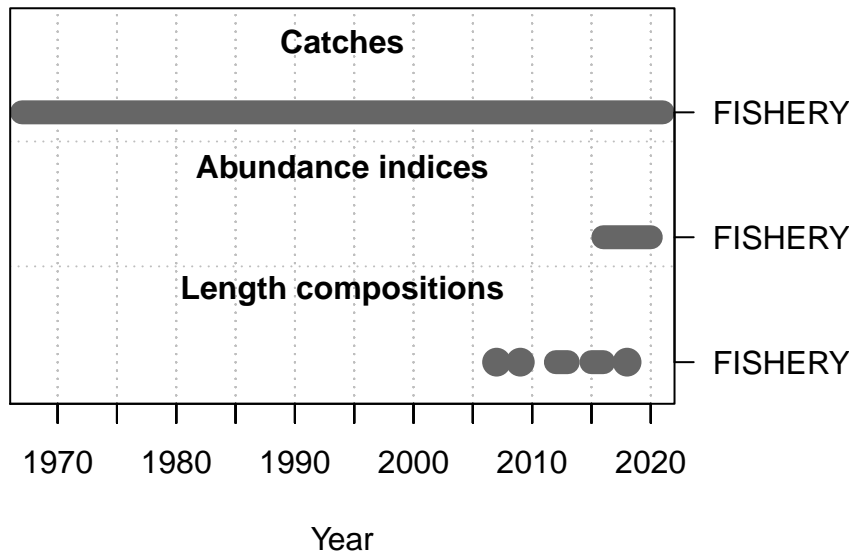
# American Samoa Model Checks

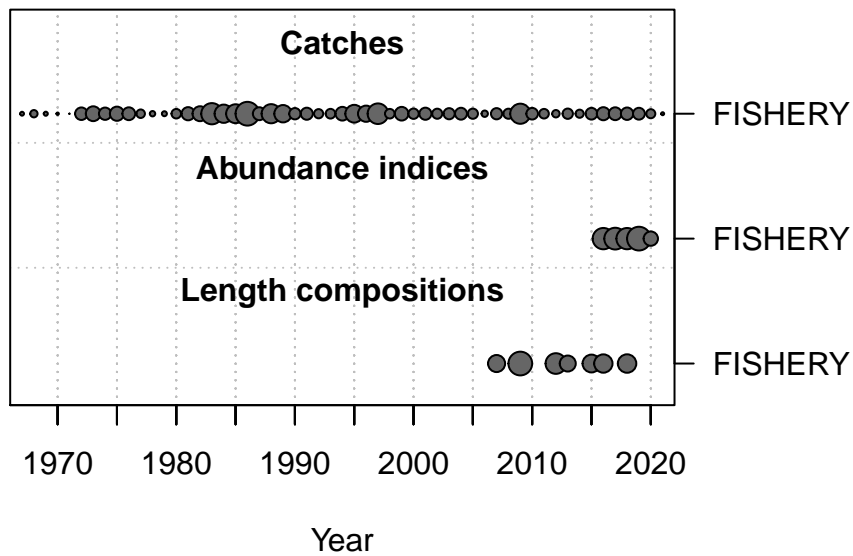
2022-08-26

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

## Model Output

### Input Data





### Convergence Check

```

Converged    MaxGrad
1          TRUE 2.599e-05

```

```

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

```

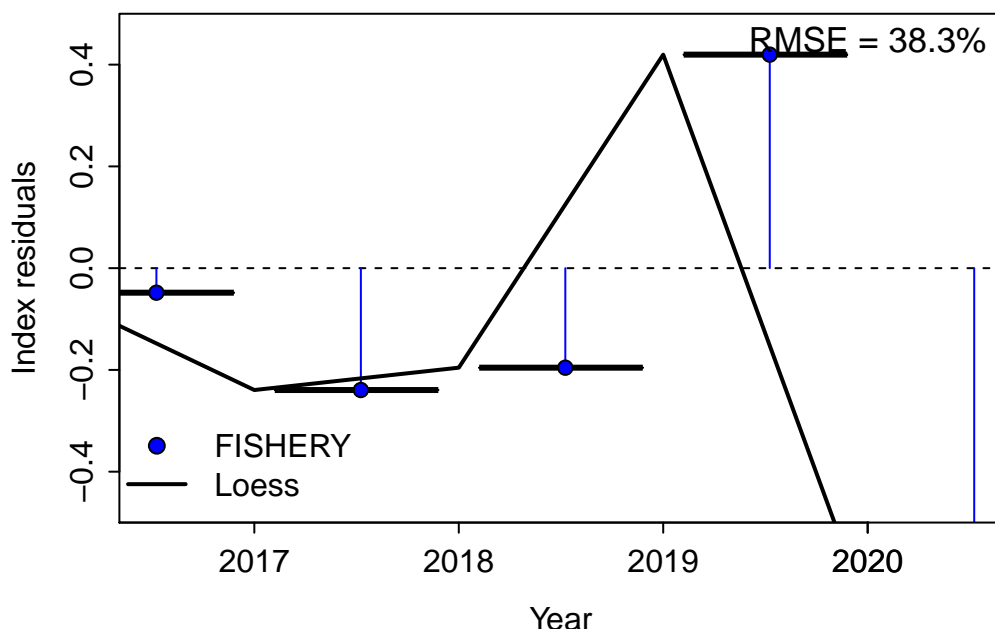
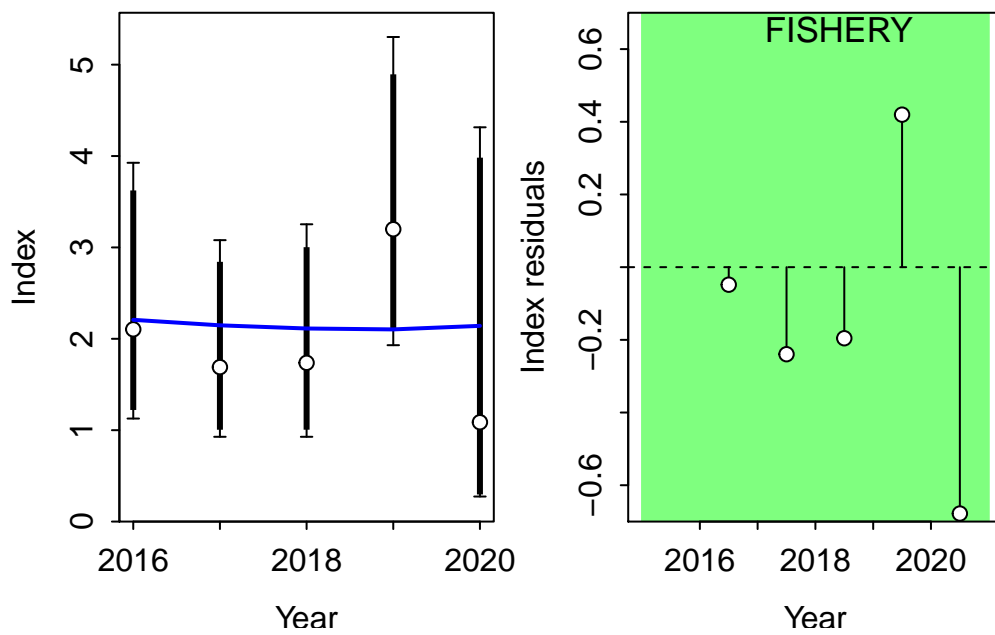
### Fit to Model

#### CPUE

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

RMSE stats by Index:

#### Length Comp



#Factor	Fleet	New_Var_adj	Type	Name
4	1	0.177561	len	FISHERY

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

```

      Index runs.p  test  sigma3.lo sigma3.hi type
1 FISHERY  0.358 Passed -0.1934665 0.1934665  len

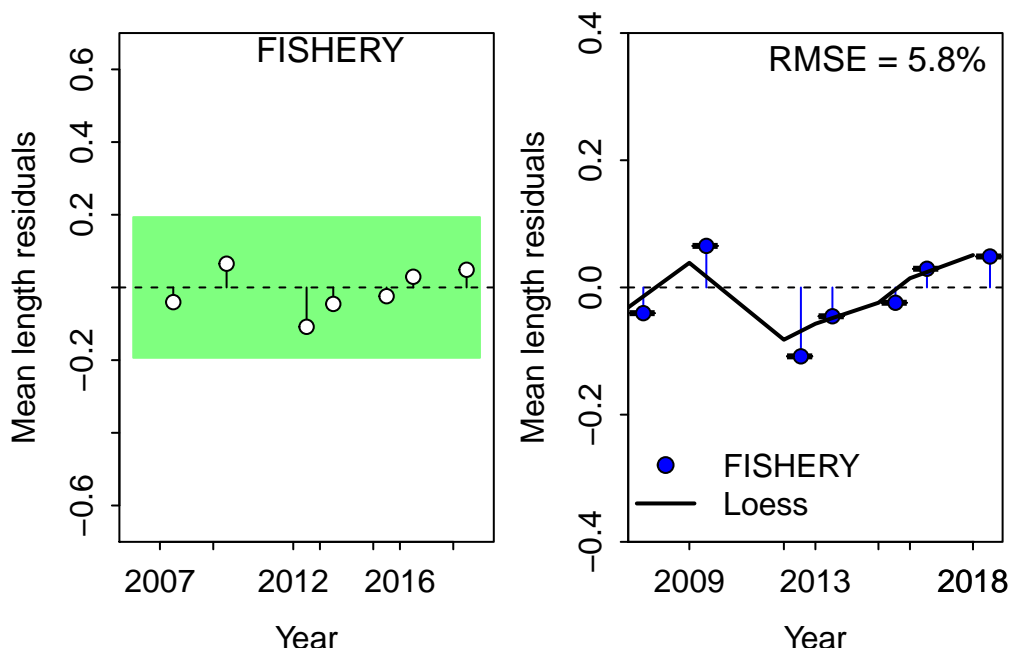
```

RMSE stats by Index:

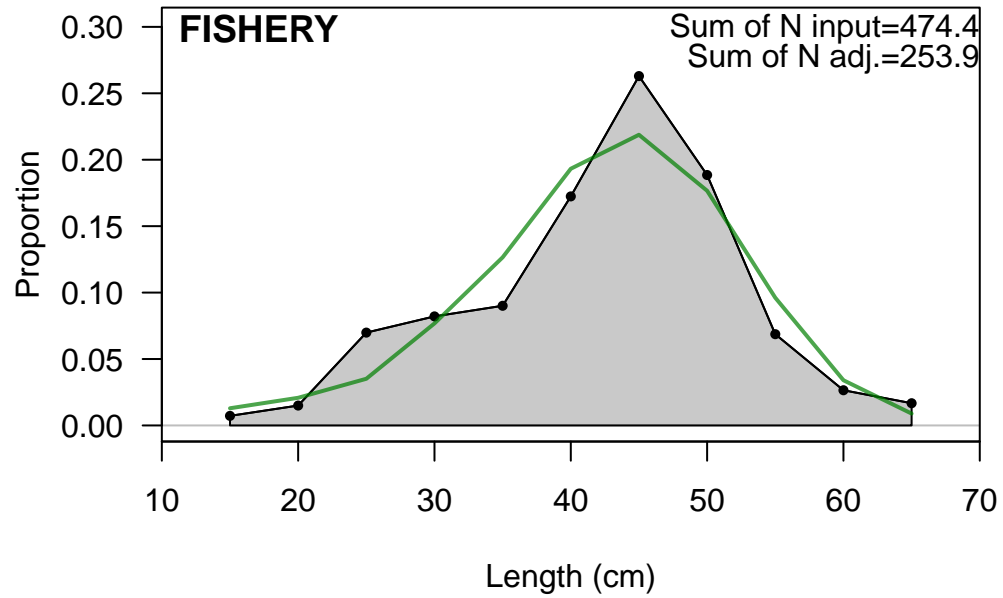
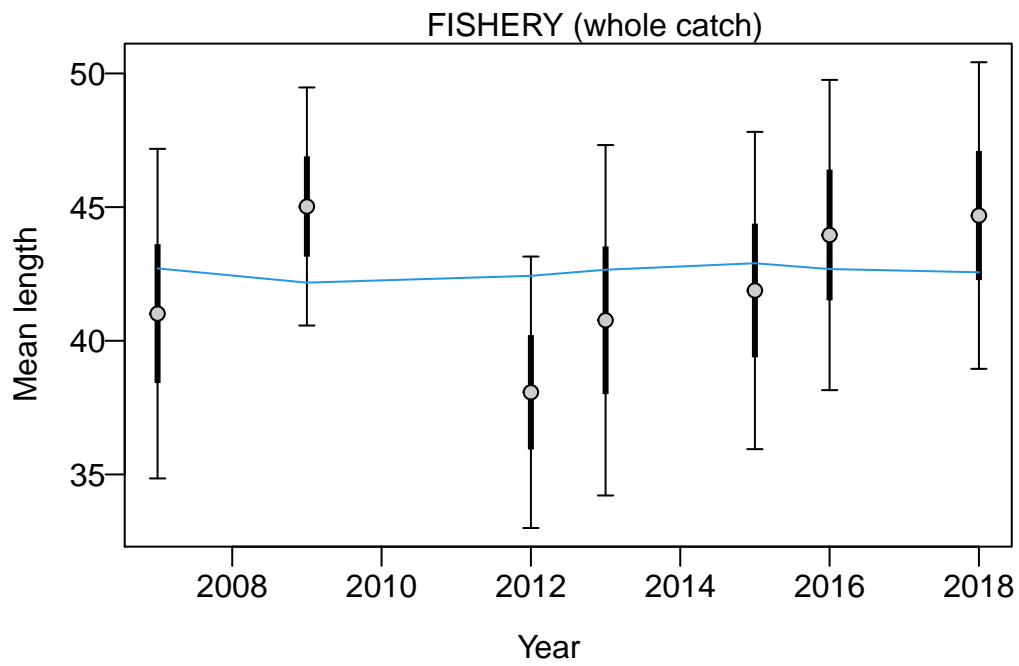
```

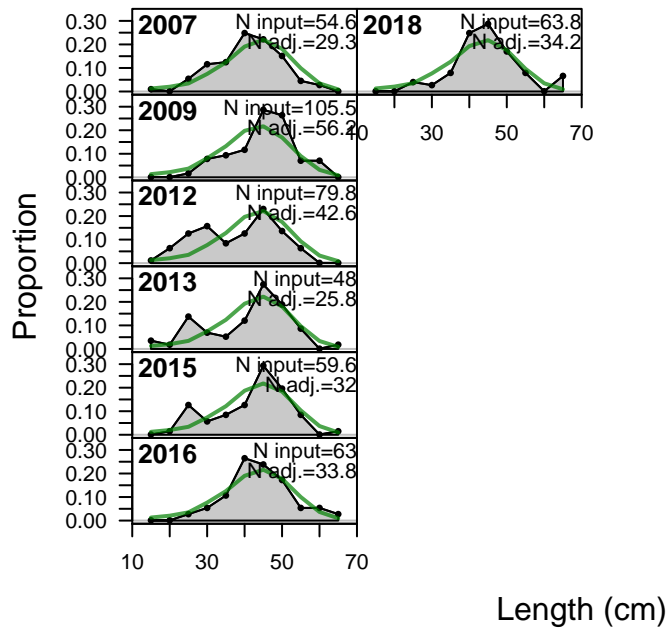
# A tibble: 2 x 3
  Fleet    RMSE.perc Nobs
  <chr>      <dbl> <int>
1 FISHERY     5.8     7
2 Combined     5.8     7

```



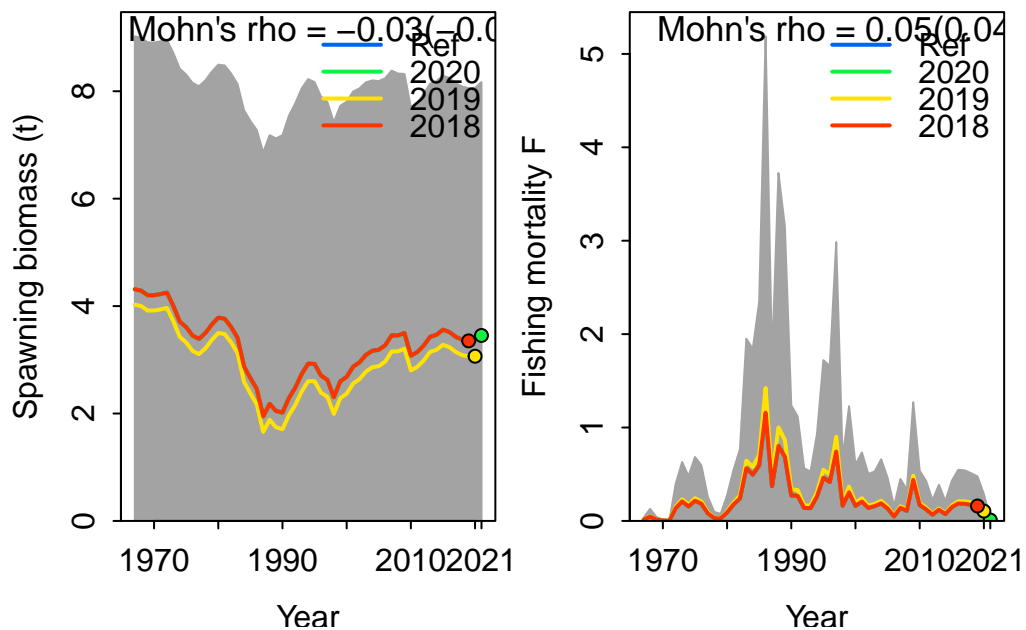
**Retrospective and Hindcasting**





## Retrospective

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



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

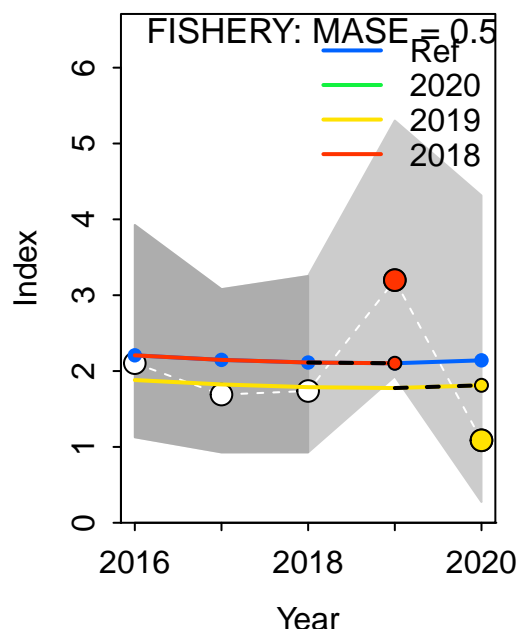
	type	peel	Rho	Forecast	Rho
1	F	2020	-0.003369179	0.001241364	
2	F	2019	0.142763384	0.126506597	
3	F	2018	0.000000000	0.000000000	
4	F Combined		0.046464735	0.042582654	

## 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

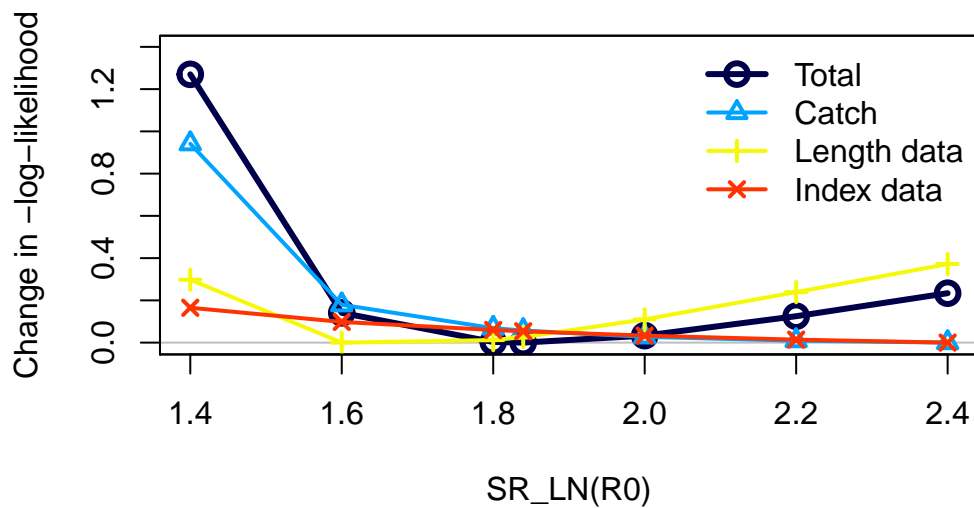
MASE stats by Index:

## Recruitment Deviations

## Likelihood Profile

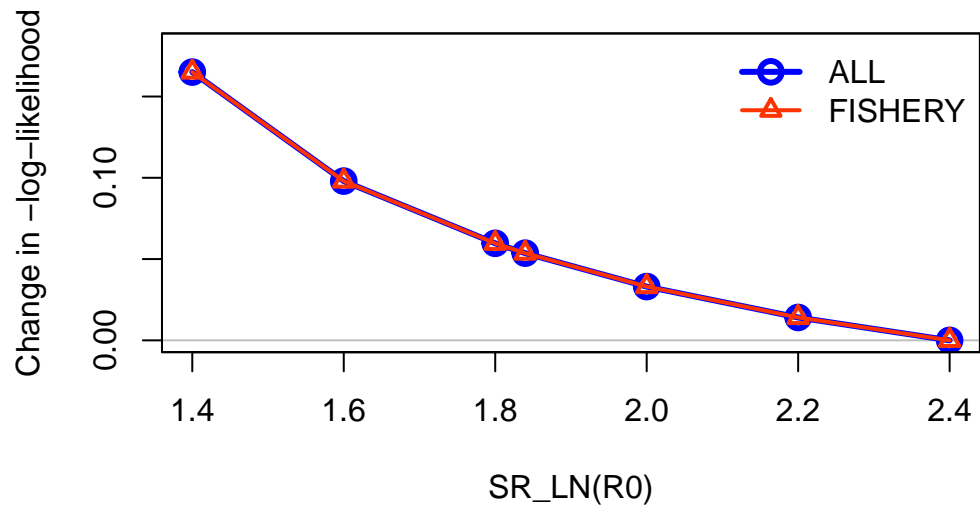
[1] "SR\_LN"

	frac_change	include	label
TOTAL	1.0000	TRUE	Total
Catch	0.7414	TRUE	Catch
Equil_catch	0.0000	FALSE	Equilibrium catch
Survey	0.1300	TRUE	Index data
Length_comp	0.2929	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	0.0028	FALSE	Priors
Parm_softbounds	0.0001	FALSE	Soft bounds
Parm_devs	0.0000	FALSE	Parameter deviations
Crash_Pen	0.0000	FALSE	Crash penalty



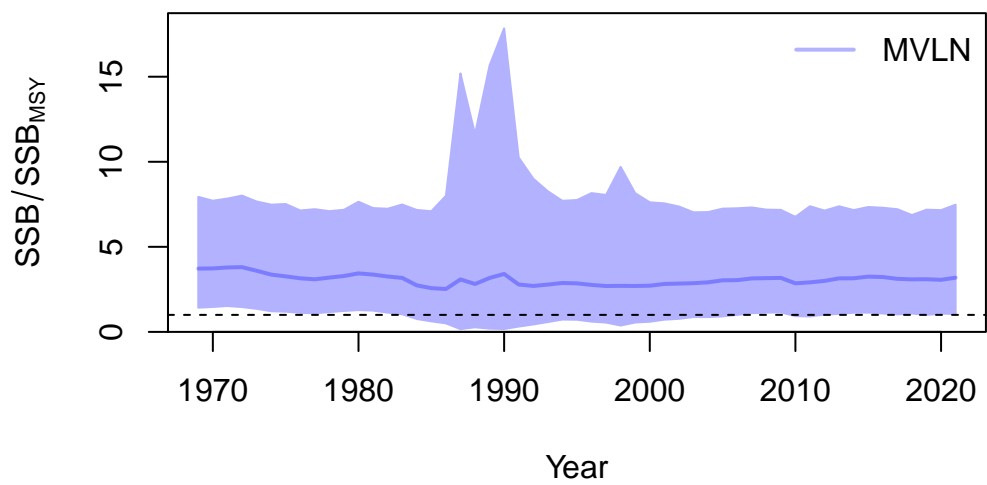
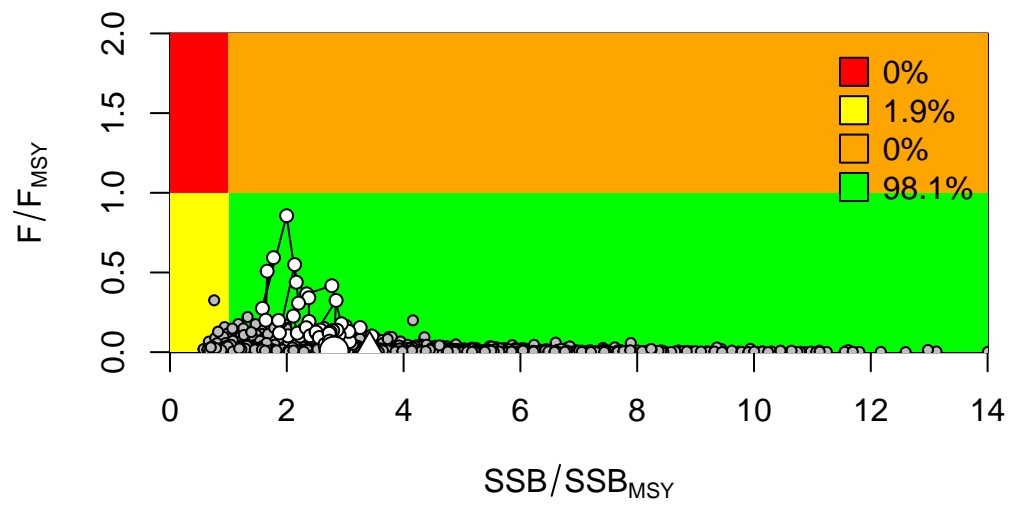


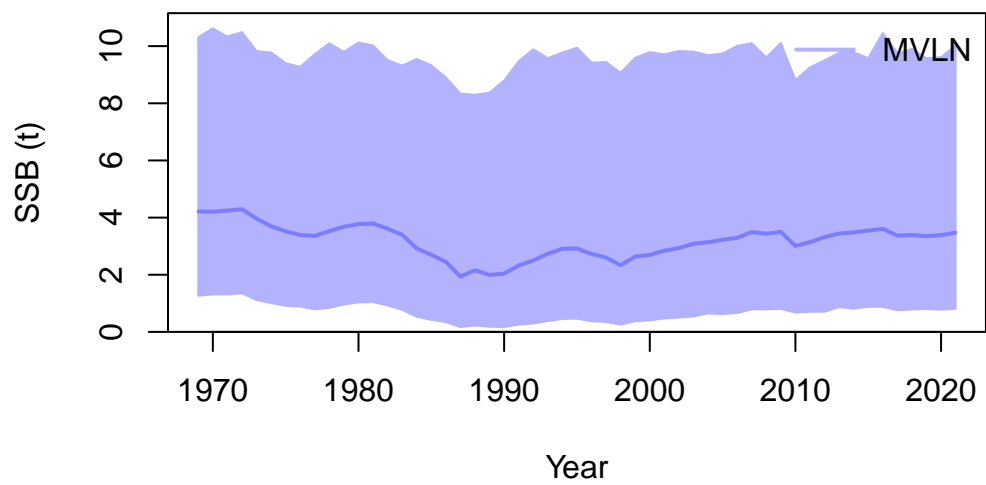
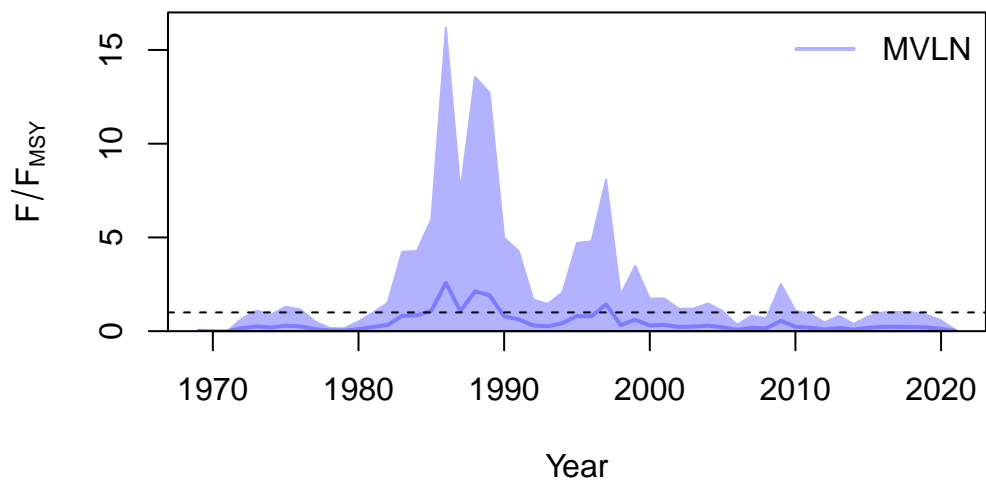
## Changes in survey likelihood by fleet

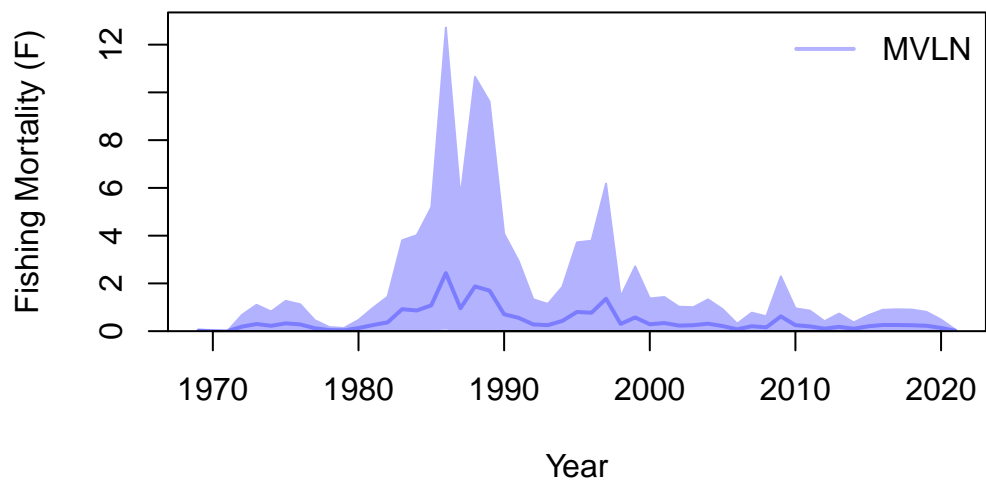


## Management Quantities

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







null device  
1

**Jitter**

