

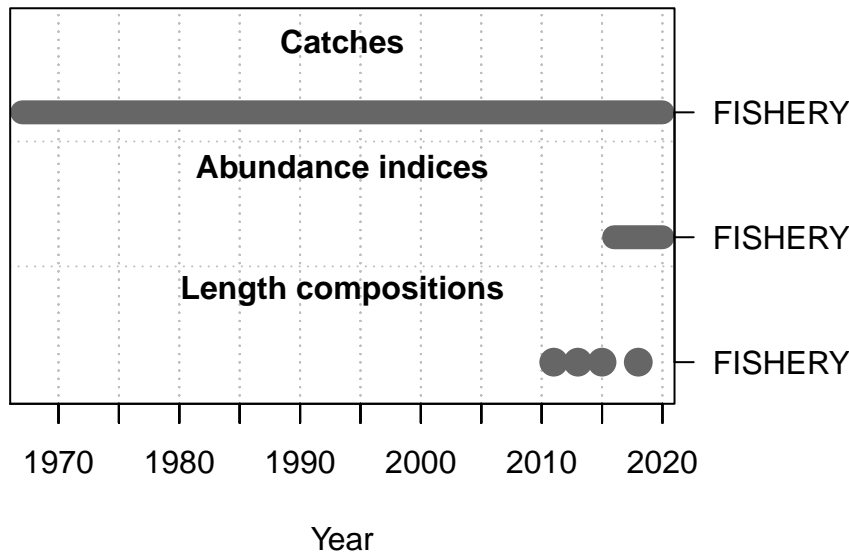
American Samoa Model Checks

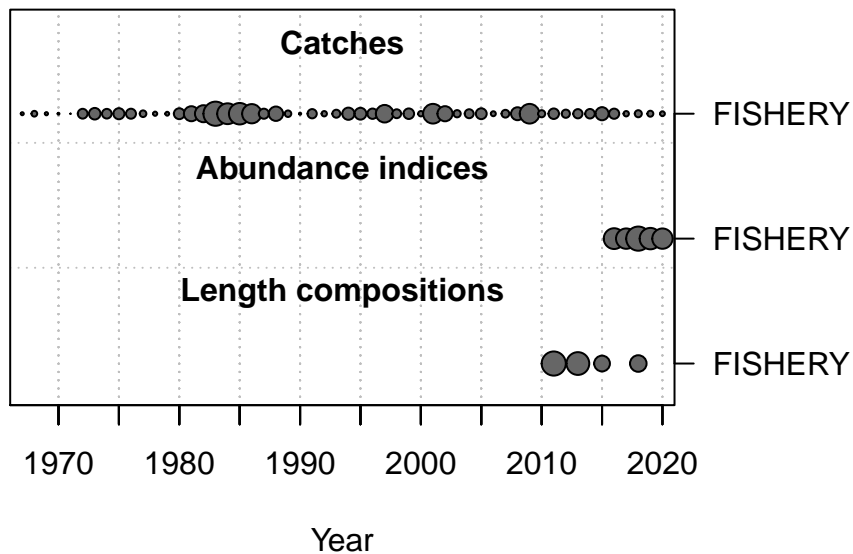
2022-08-30

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

Model Output

Input Data





Convergence Check

```

Converged      MaxGrad
1      TRUE 1.51482e-05

```

```

[1] "1 catch is 0.0 in endyr; this can cause problem in the benchmark and forecast calculation"
[2] "2 NOTE: Max data length bin: 48 < max pop len bins: 53; so will accumulate larger pop"
[3] "3 warning: poor convergence in Fmsy, final dy/dy2= -0.00196126"
[4] "N warnings: 3"

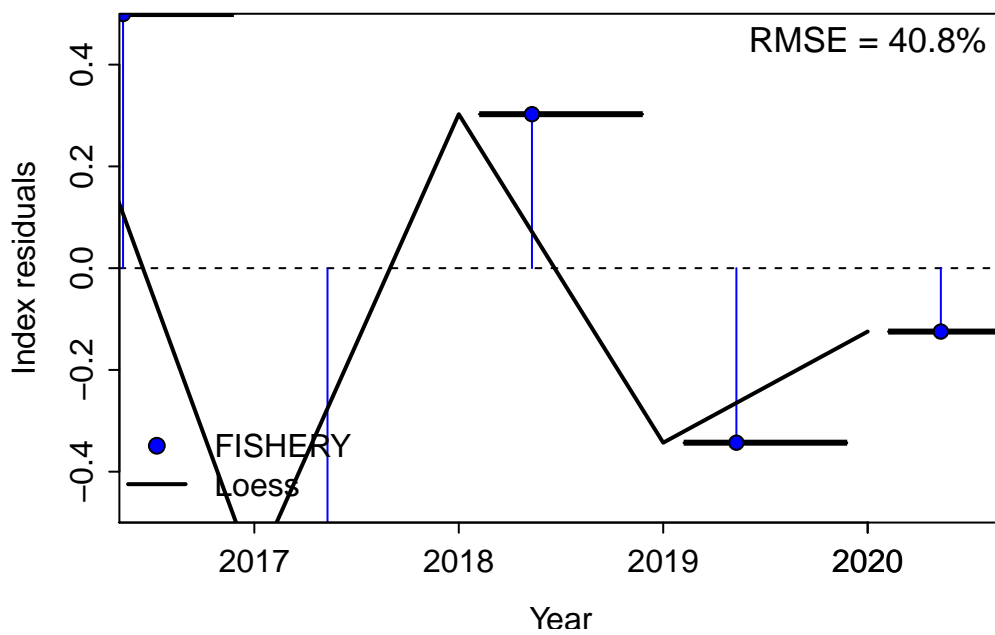
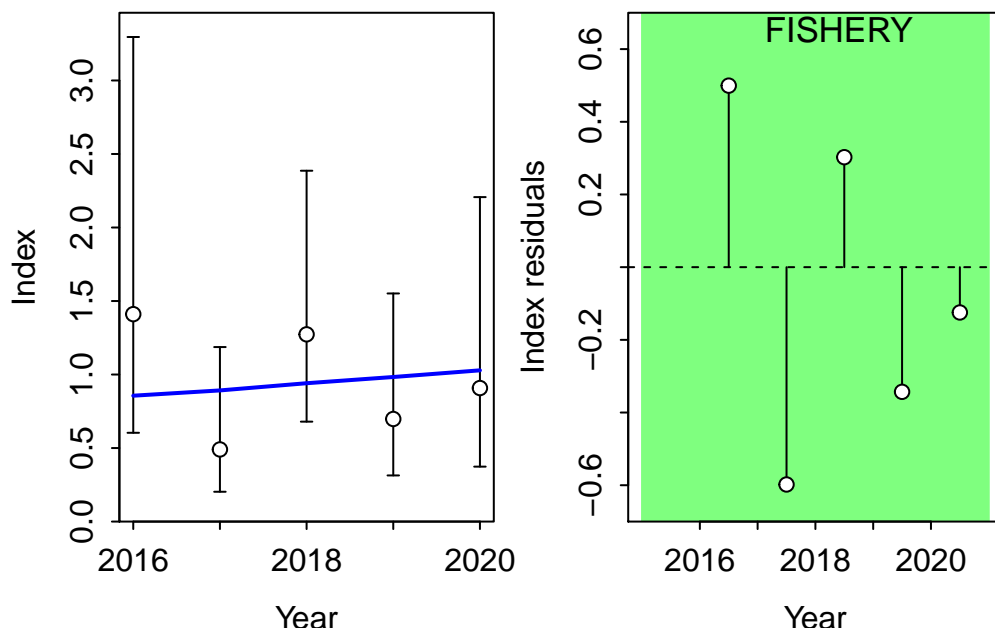
```

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	0.301722	len	FISHERY

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

```

Index runs.p  test  sigma3.lo  sigma3.hi  type
1 FISHERY    0.11 Passed -0.08029412 0.08029412  len

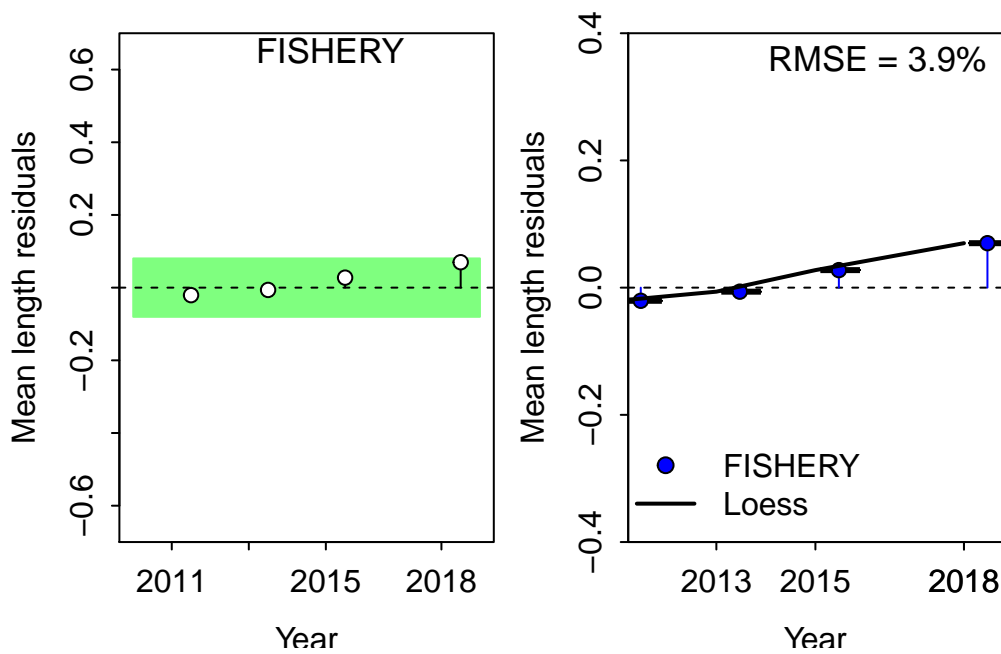
```

RMSE stats by Index:

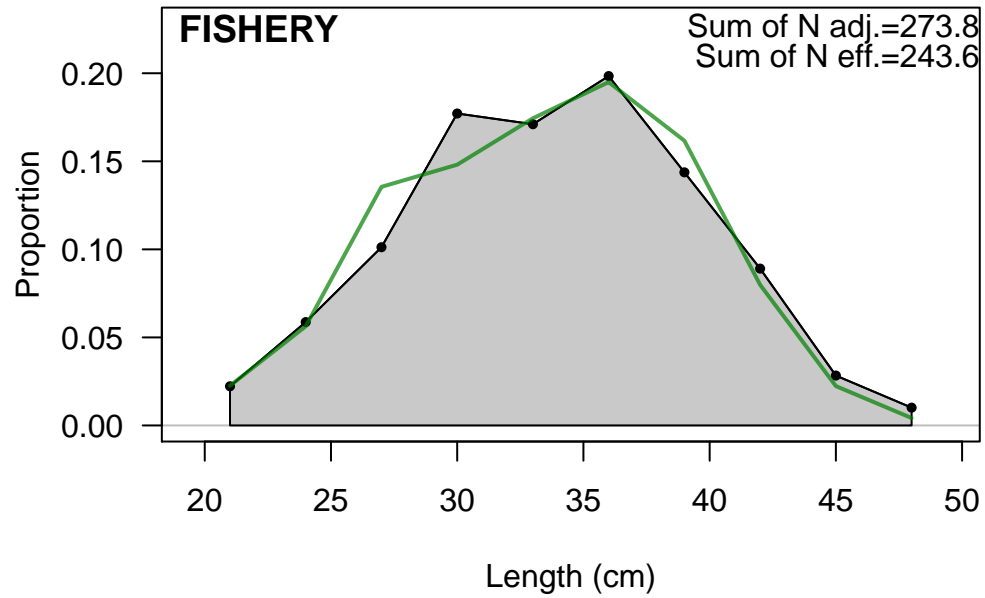
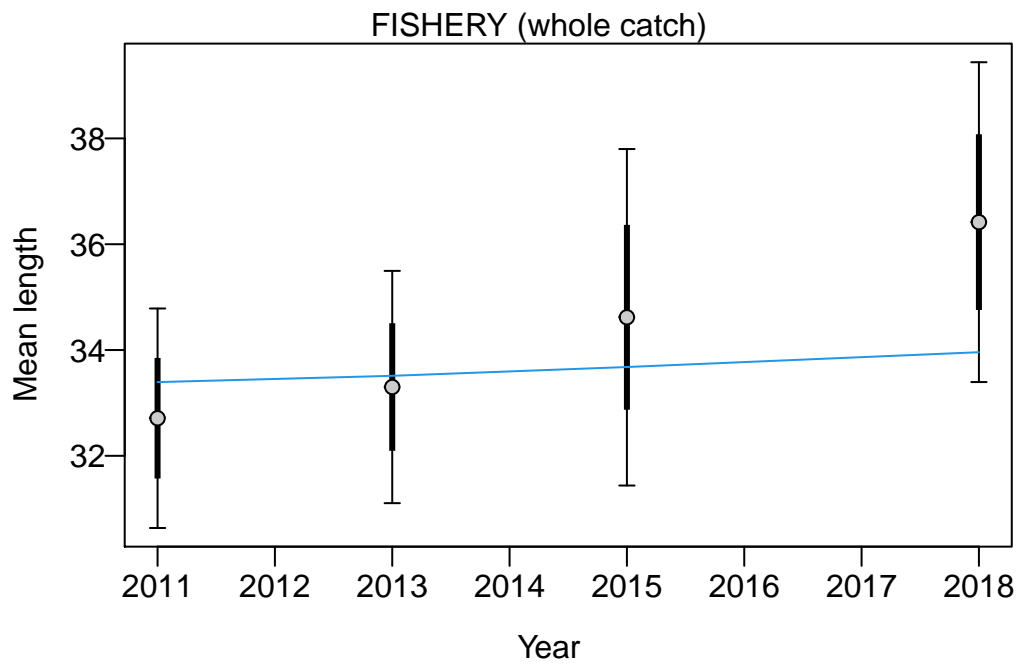
```

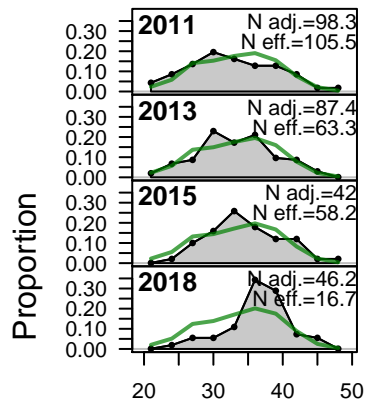
# A tibble: 2 x 3
  Fleet    RMSE.perc  Nobs
  <chr>      <dbl> <int>
1 FISHERY      3.9      4
2 Combined      3.9      4

```



Retrospective and Hindcasting

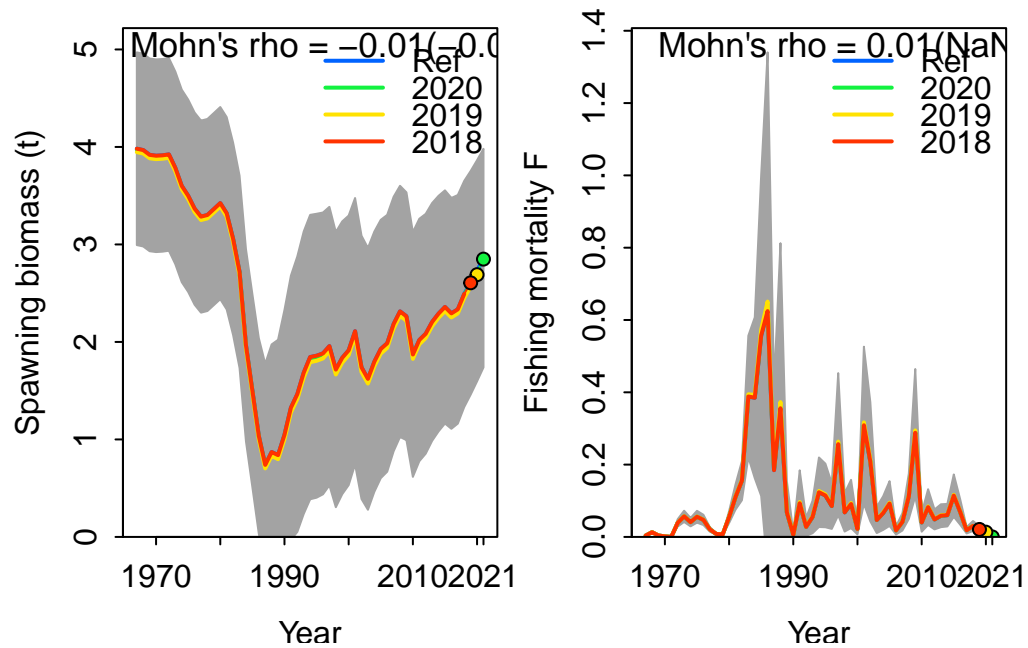




Length (cm)

Retrospective

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



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

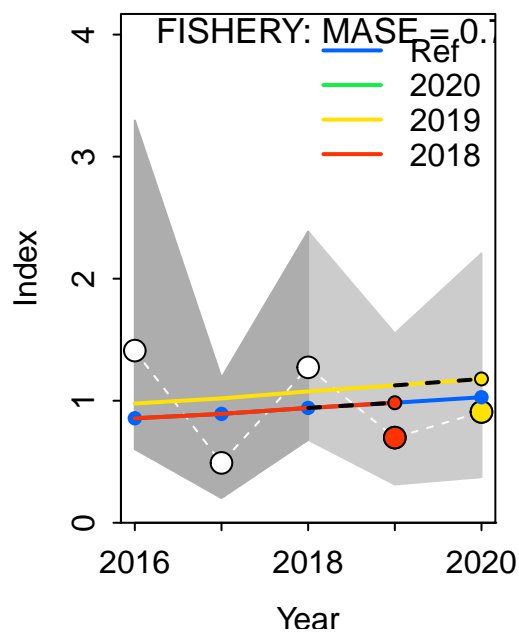
	type	peel	Rho	ForecastRho
1	F	2020	0.003801872	NaN
2	F	2019	0.015480564	0.01461489
3	F	2018	0.000000000	0.000000000
4	F Combined		0.006427478	NaN

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

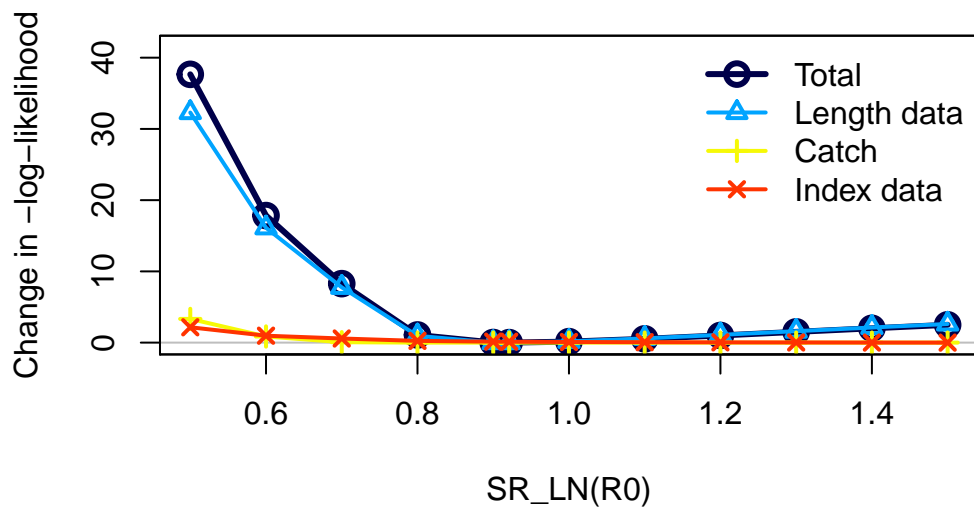
MASE stats by Index:

Recruitment Deviations

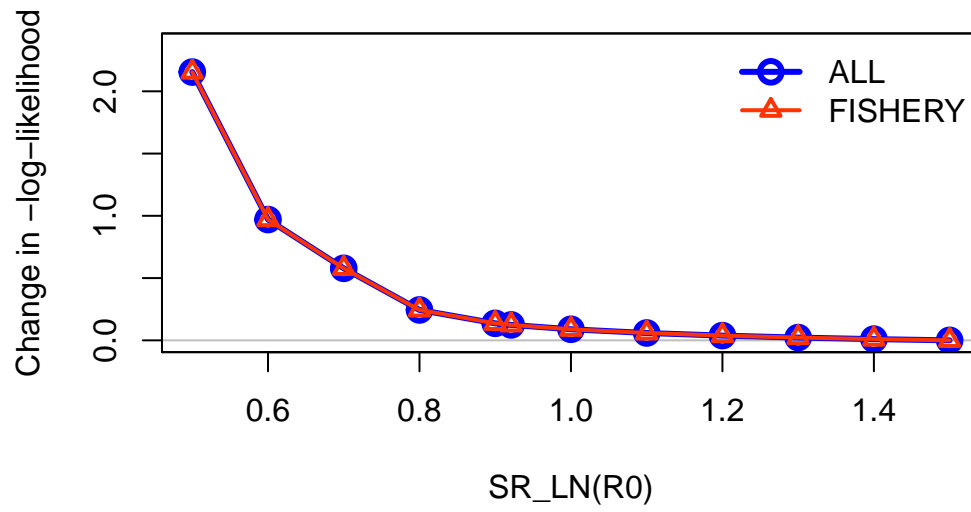
Likelihood Profile

[1] "SR_LN"

	frac_change	include	label
TOTAL	1.0000	TRUE	Total
Catch	0.0883	TRUE	Catch
Equil_catch	0.0000	FALSE	Equilibrium catch
Survey	0.0572	TRUE	Index data
Length_comp	0.8575	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	0.0000	FALSE	Priors
Parm_softbounds	0.0003	FALSE	Soft bounds
Parm_devs	0.0000	FALSE	Parameter deviations
Crash_Pen	0.0000	FALSE	Crash penalty

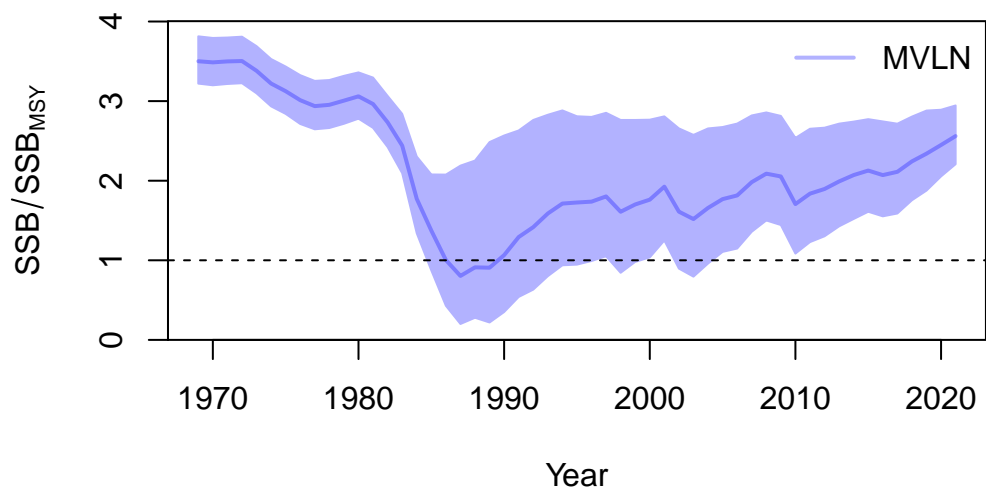
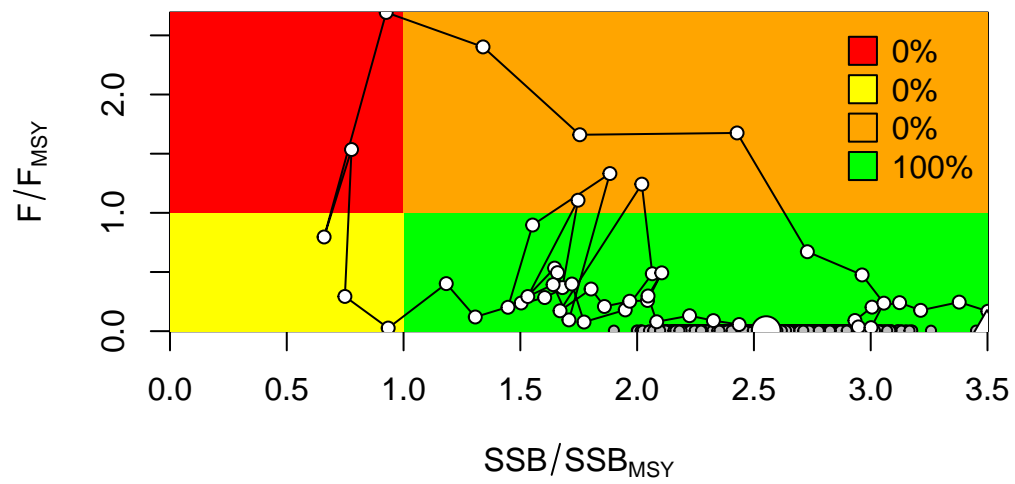


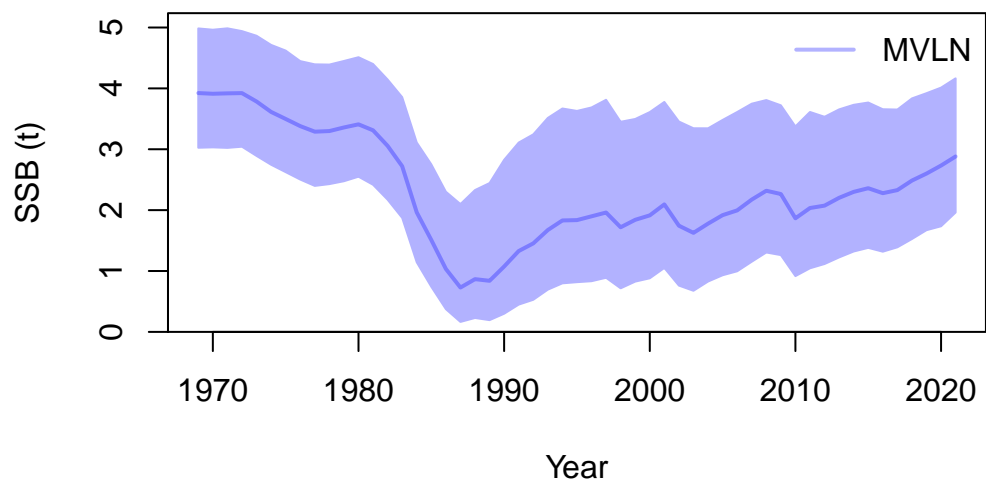
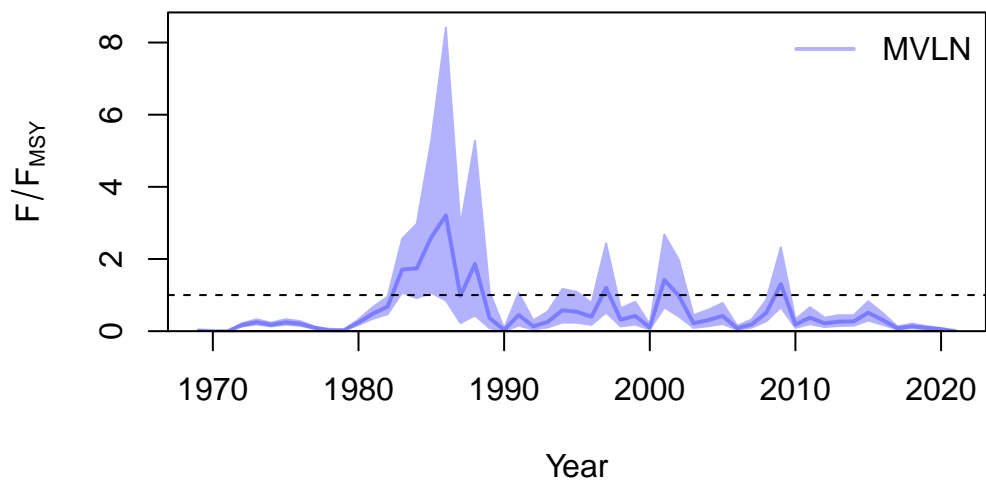
Changes in survey likelihood by fleet

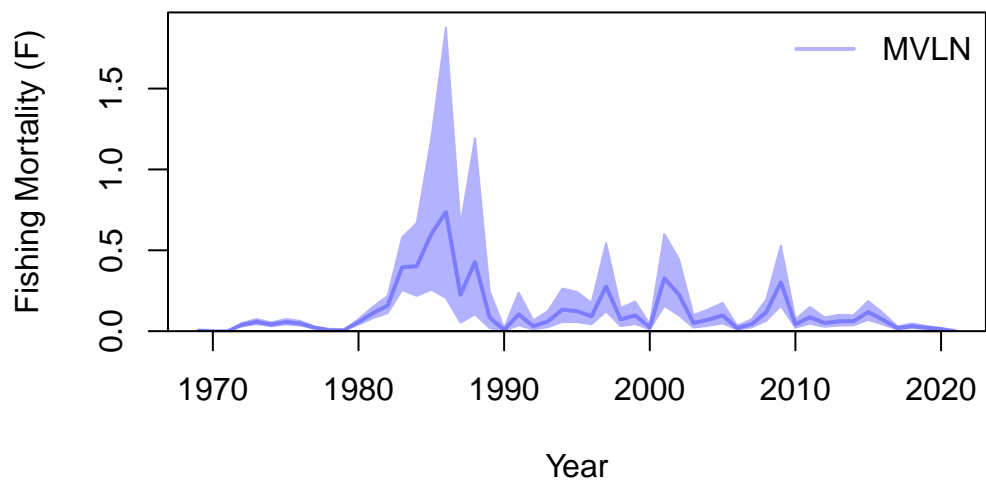


Management Quantities

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







null device
1

Jitter

