

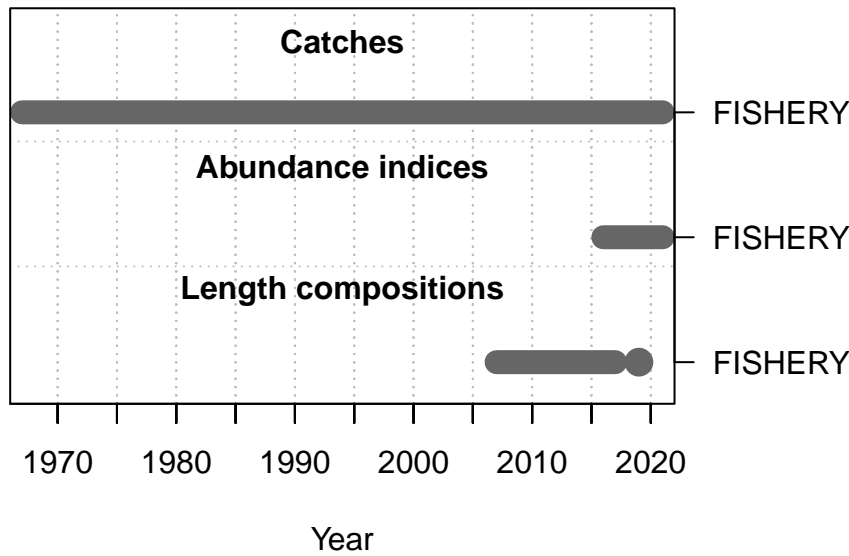
American Samoa Model Checks

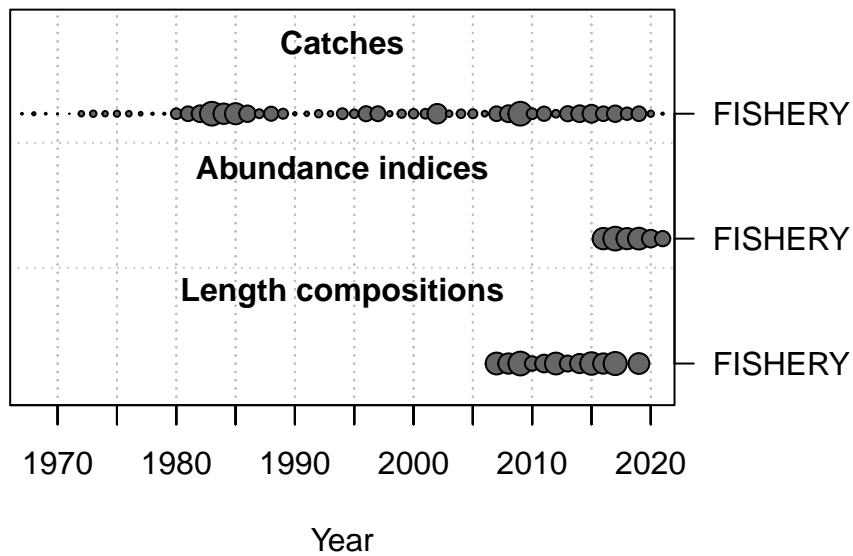
2022-09-01

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

Model Output

Input Data





Convergence Check

```

Converged      MaxGrad
1      TRUE 8.48143e-07

```

```

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

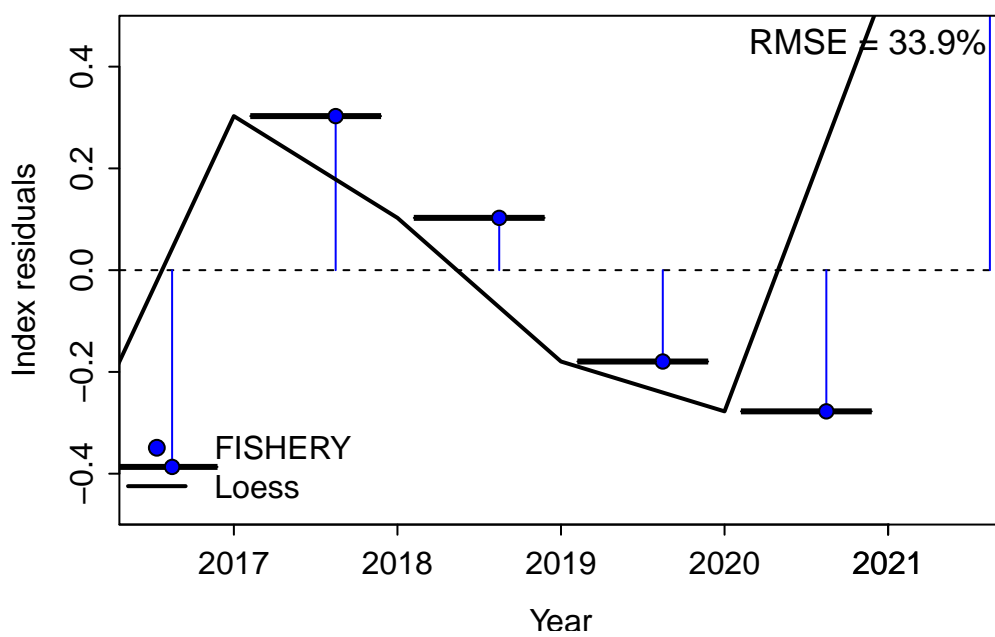
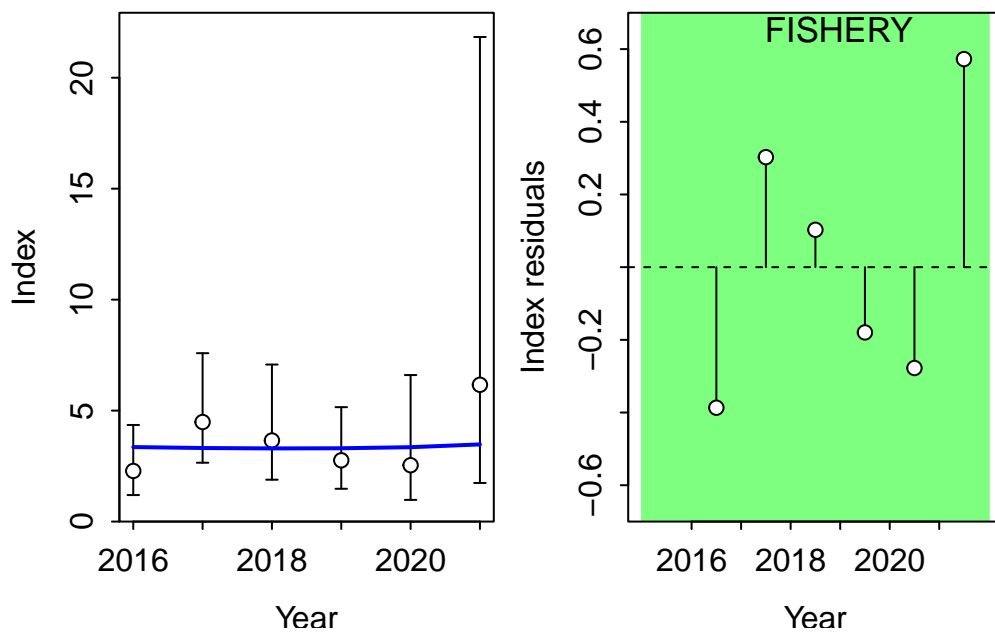
```

Fit to Model

CPUE

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

RMSE stats by Index:



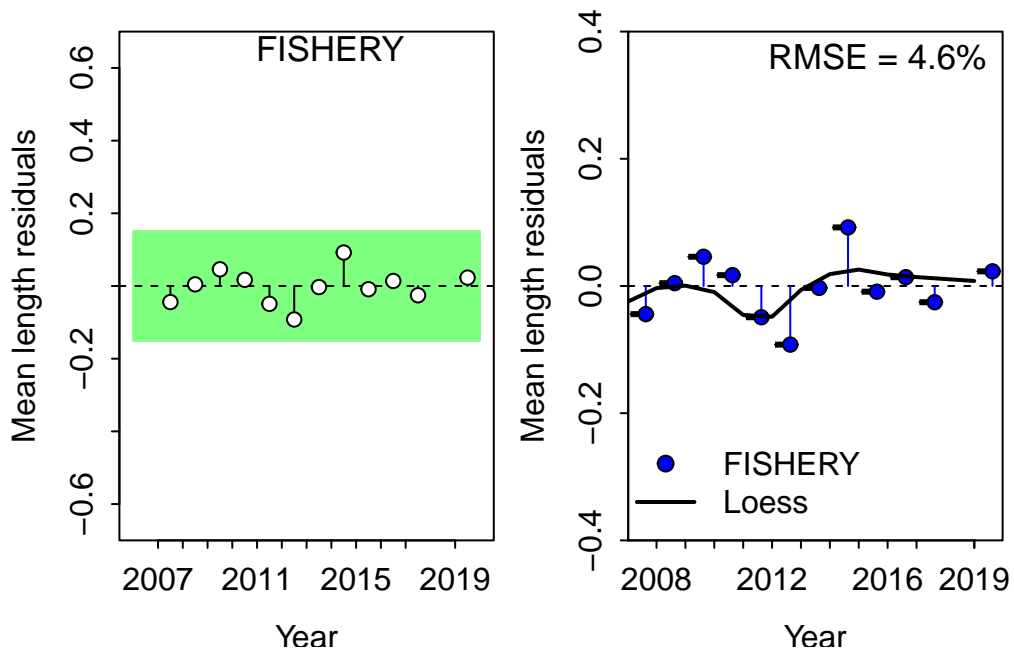
Length Comp

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

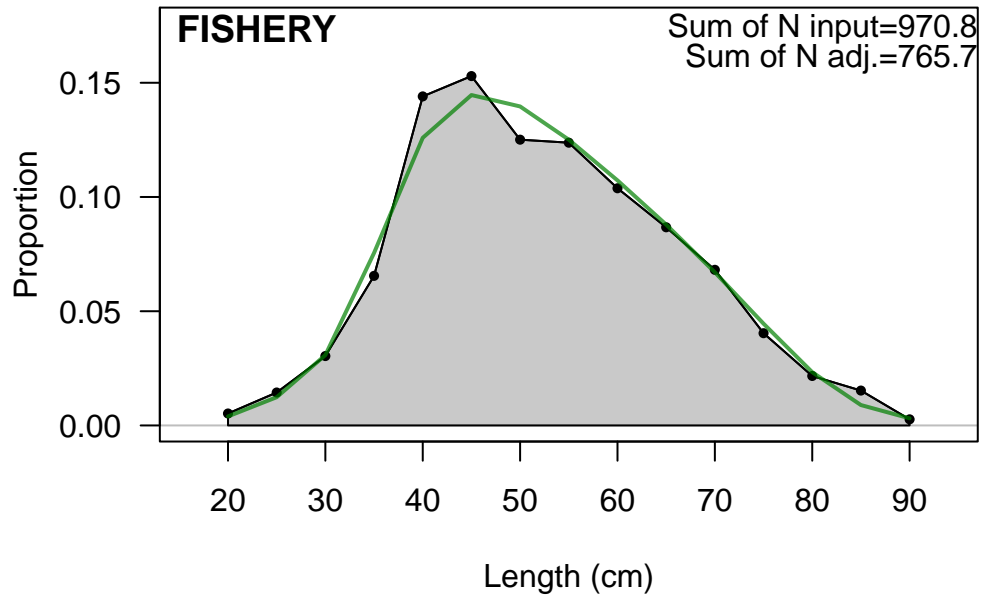
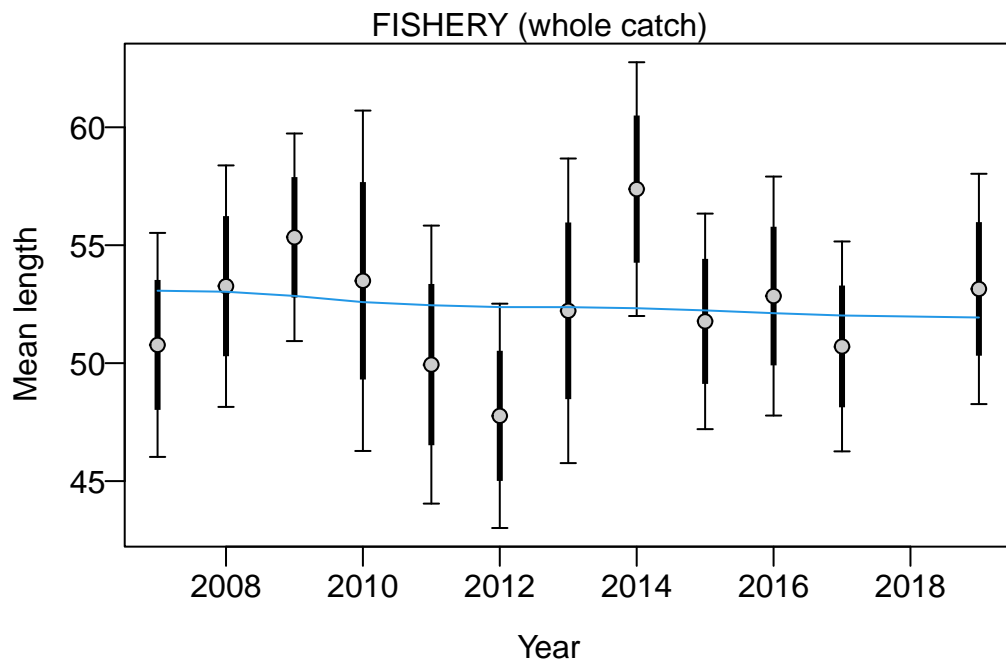
```
Index runs.p  test  sigma3.lo sigma3.hi type
1 FISHERY    0.728 Passed -0.1509452 0.1509452  len
```

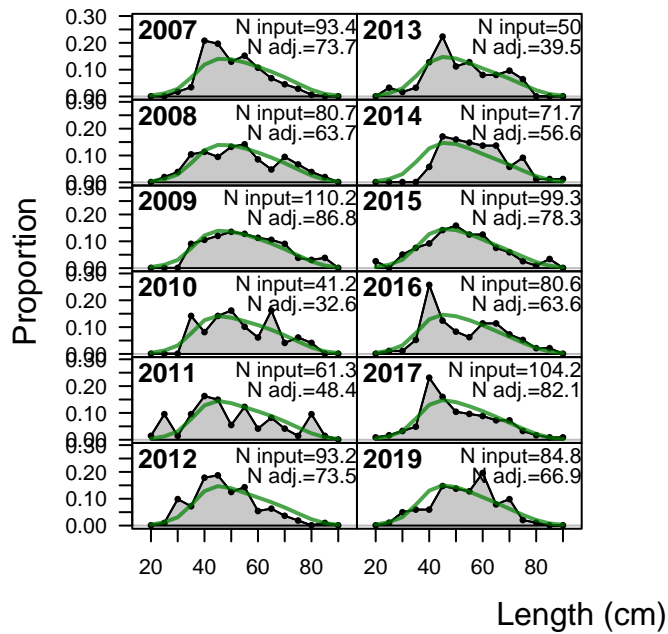
RMSE stats by Index:

```
# A tibble: 2 x 3
  Fleet    RMSE.perc  Nobs
  <chr>      <dbl> <int>
1 FISHERY      4.6     12
2 Combined      4.6     12
```



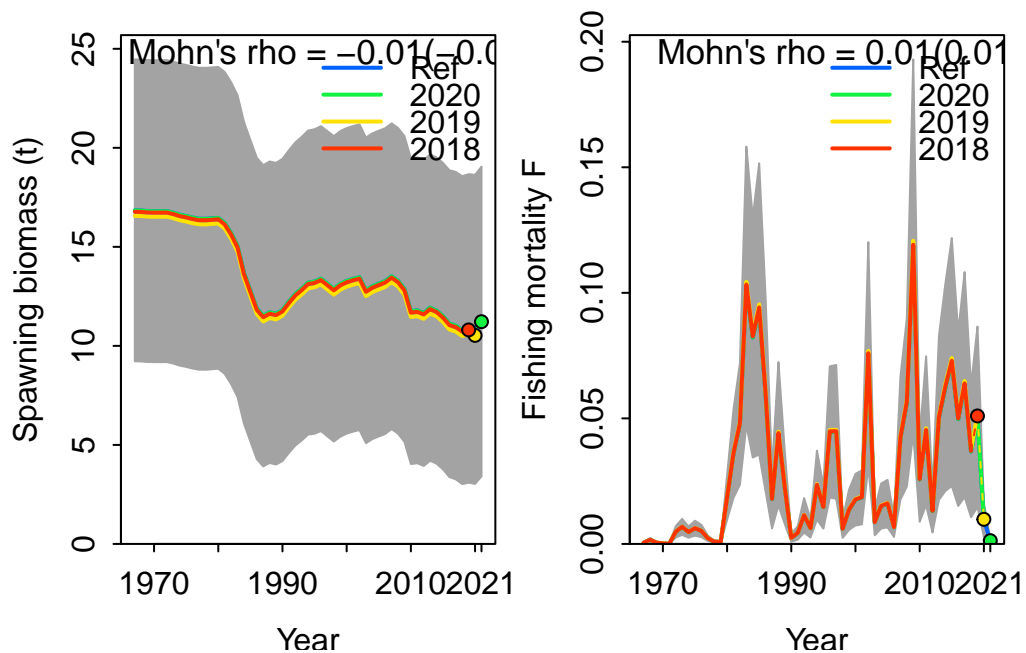
Retrospective and Hindcasting





Retrospective

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



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

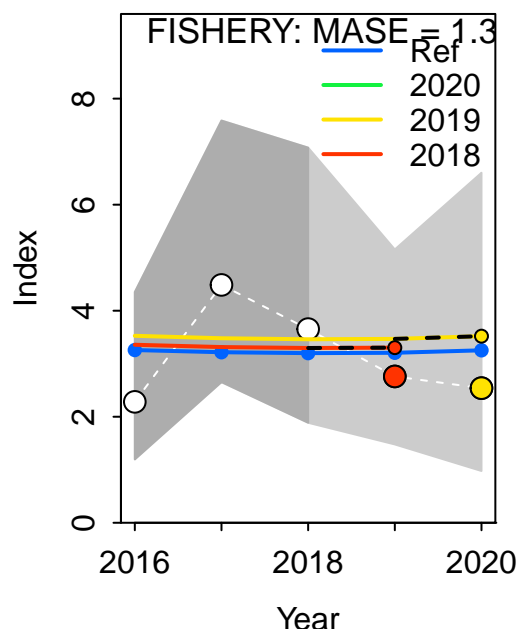
	type	peel	Rho	ForecastRho
1	F	2020	0.0007321461	0.000708619
2	F	2019	0.0229430661	0.022641254
3	F	2018	0.0069257574	0.006924606
4	F Combined		0.0102003232	0.010091493

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

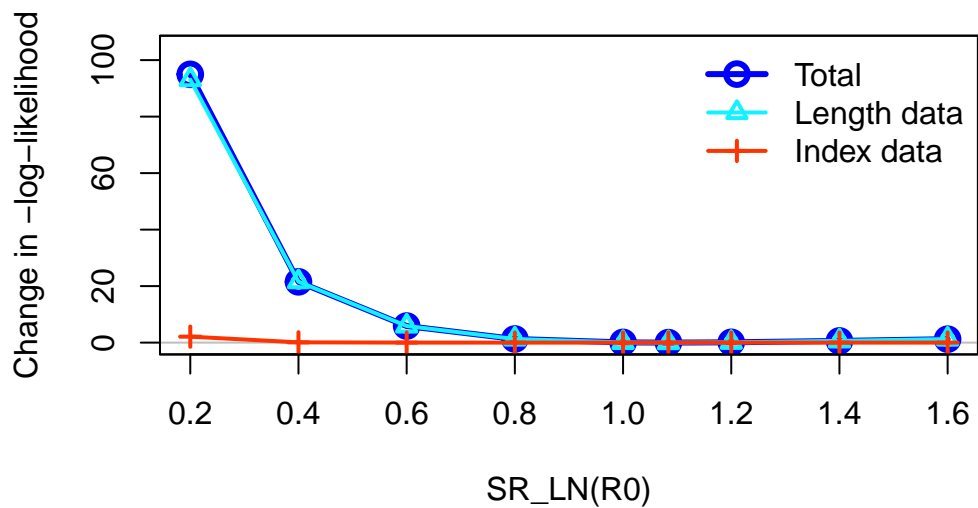
MASE stats by Index:

Recruitment Deviations

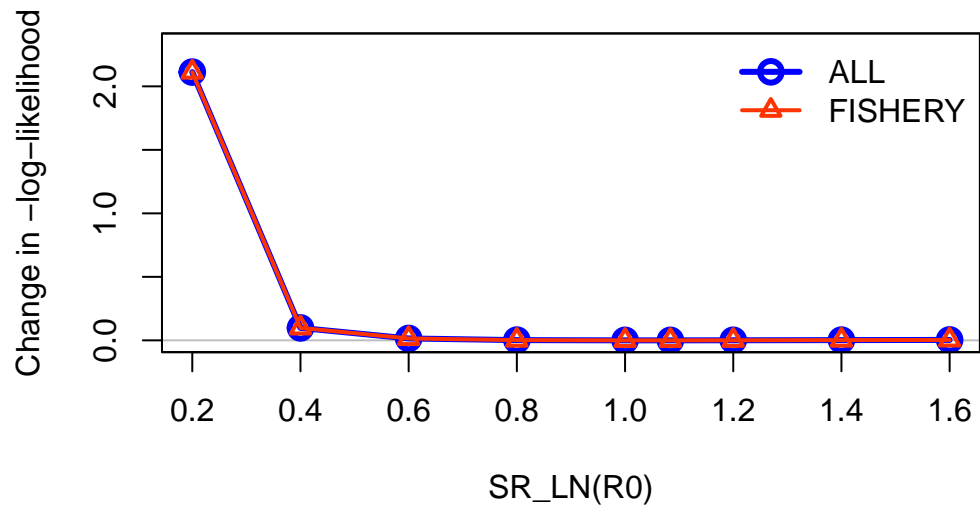
Likelihood Profile

[1] "SR_LN"

	frac_change	include	label
TOTAL	1.0000	TRUE	Total
Catch	0.0000	FALSE	Catch
Equil_catch	0.0000	FALSE	Equilibrium catch
Survey	0.0222	TRUE	Index data
Length_comp	0.9803	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	0.0027	FALSE	Priors
Parm_softbounds	0.0001	FALSE	Soft bounds
Parm_devs	0.0000	FALSE	Parameter deviations
Crash_Pen	0.0000	FALSE	Crash penalty

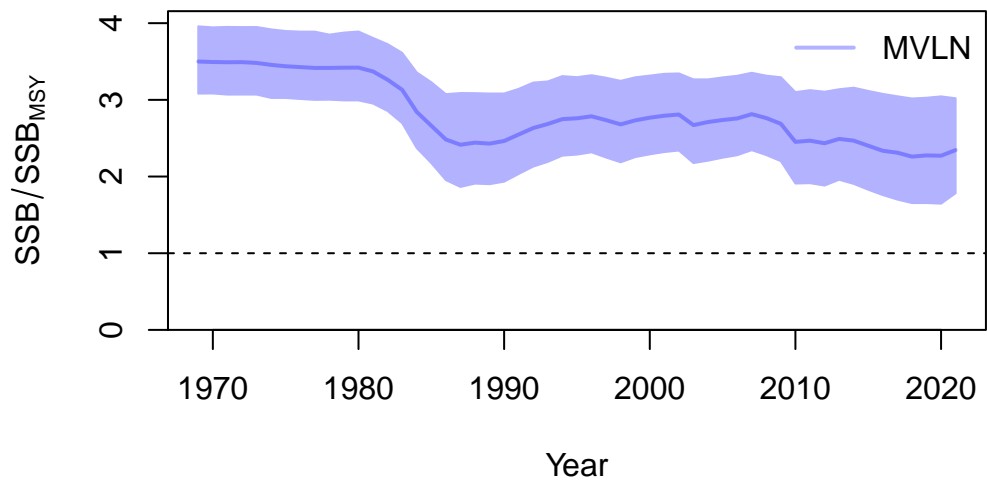
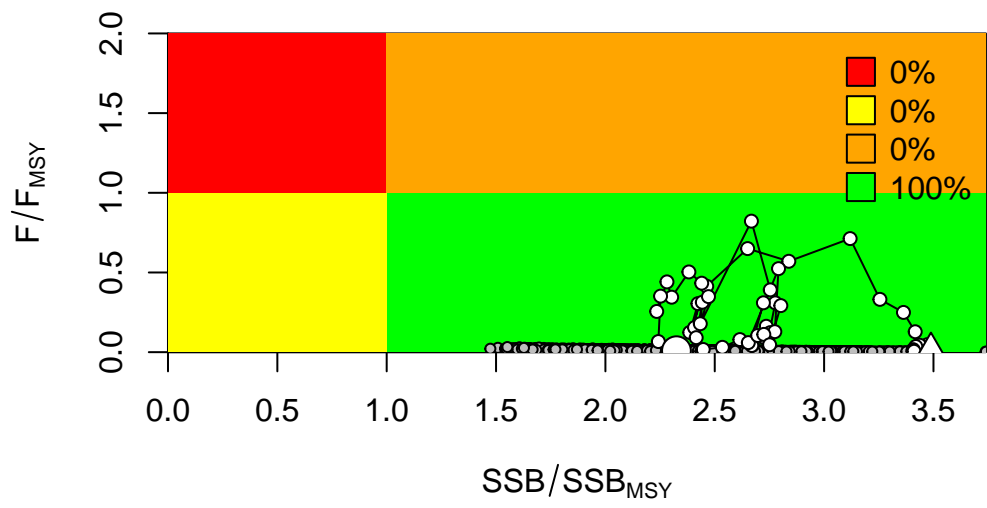


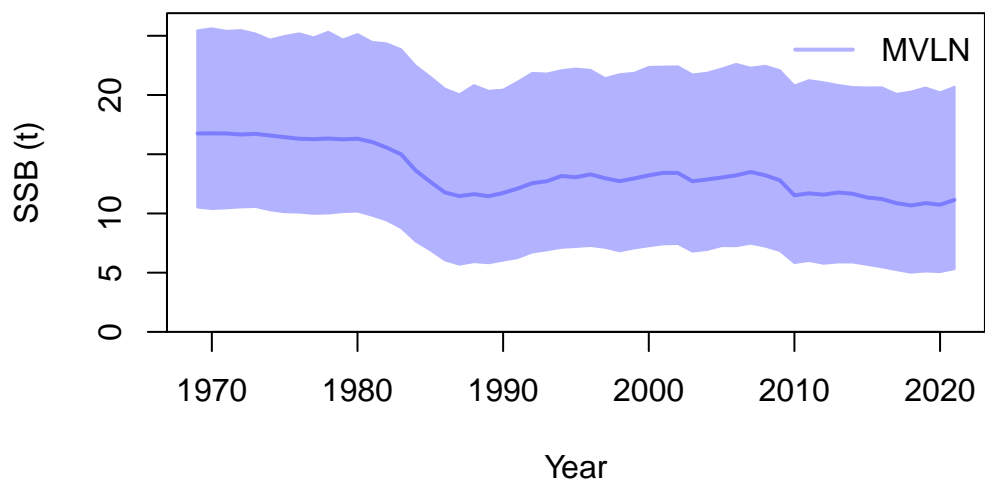
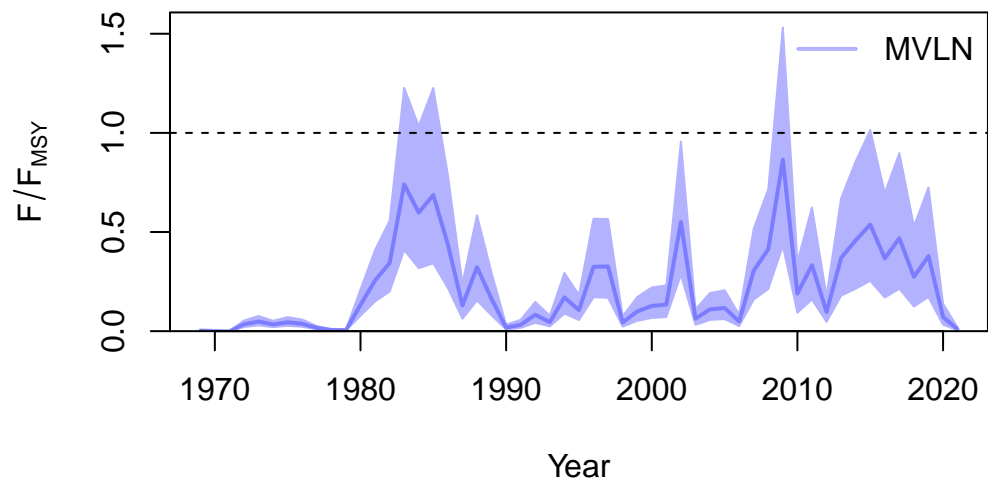
Changes in survey likelihood by fleet

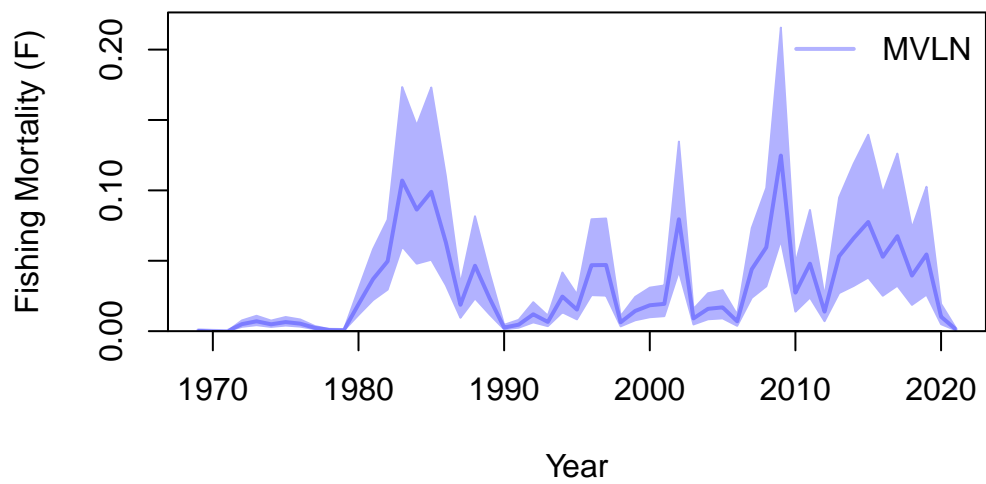


Management Quantities

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







null device
1

Jitter

