

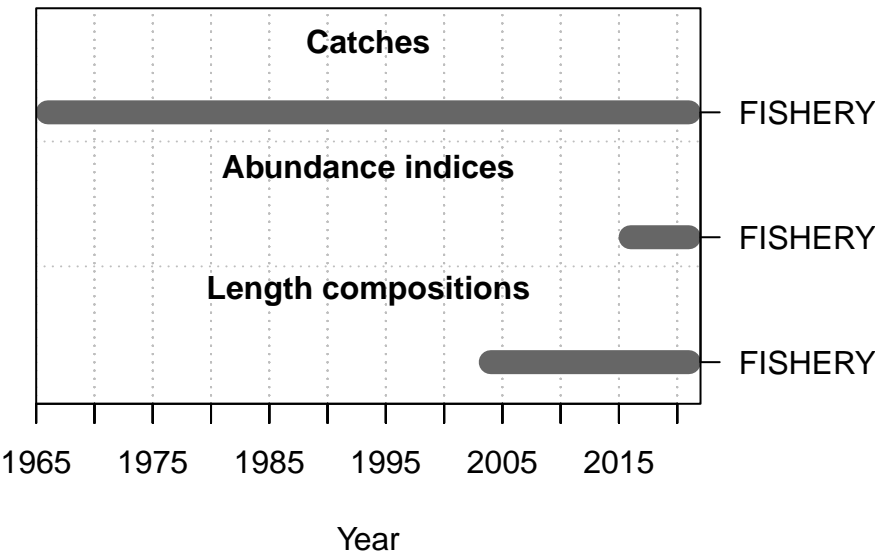
American Samoa Model Checks

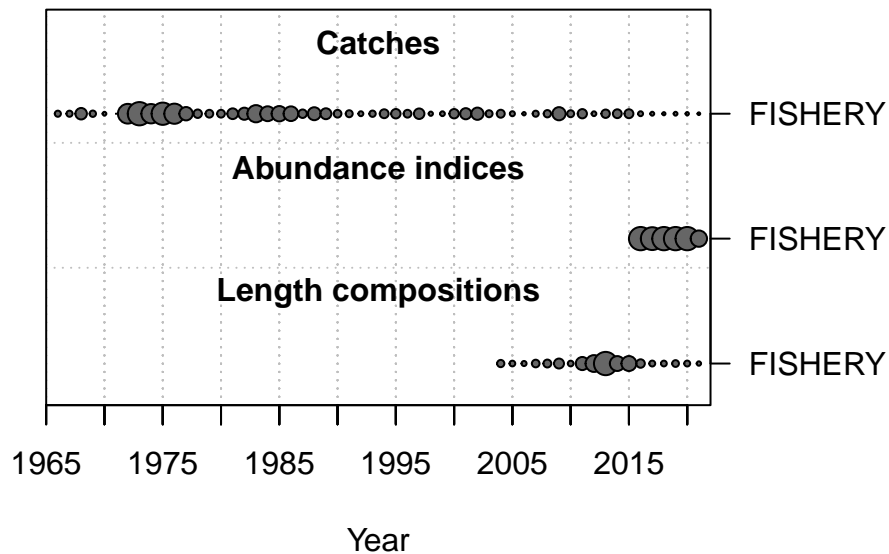
2022-09-22

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

Model Output

Input Data





Convergence Check

```

Converged      MaxGrad
1      TRUE 0.000203007

```

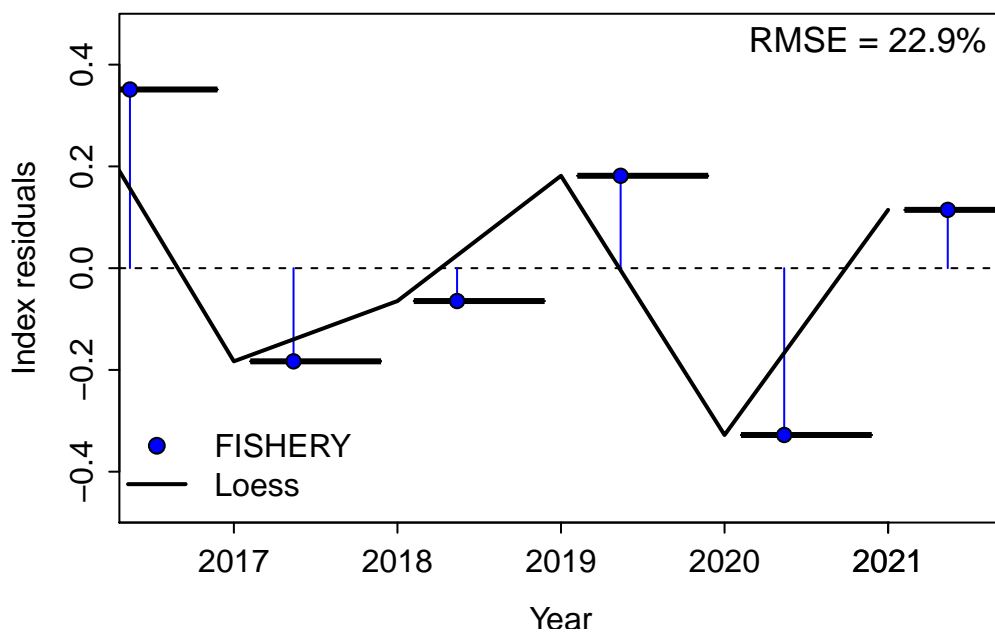
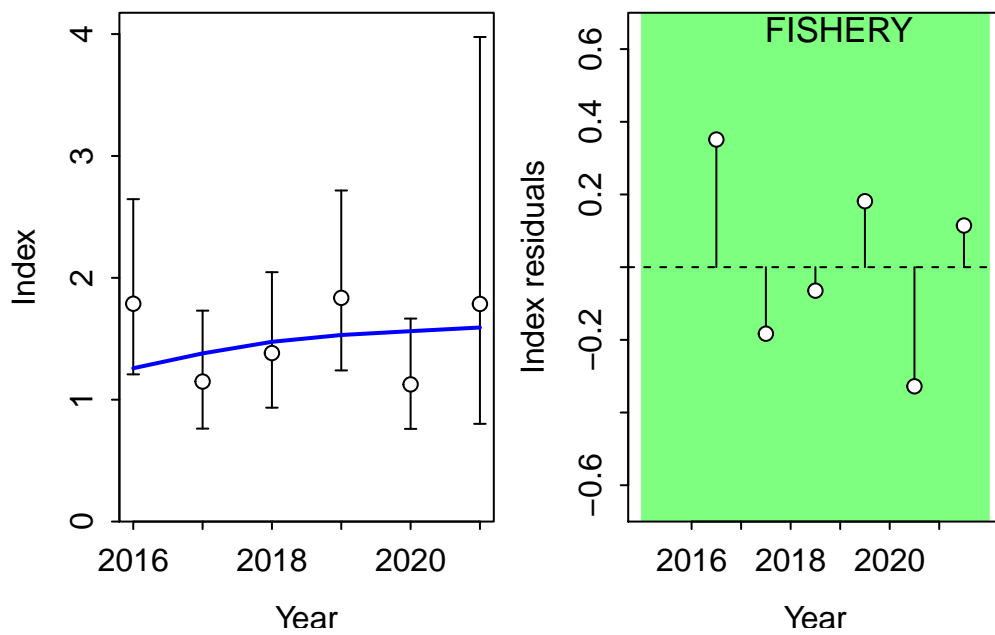
- [1] "1 NOTE: Max data length bin: 28 < max pop len bins: 31; so will accumulate larger pop
- [2] "2 Forecast F capped by max possible F from control file: 2.9"
- [3] "3 Final gradient: 0.000203007 is larger than final_conv: 0.0001"
- [4] "4 Forecast F capped by max possible F from control file: 2.9"
- [5] "N warnings: 4"

Fit to Model

CPUE

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

RMSE stats by Index:



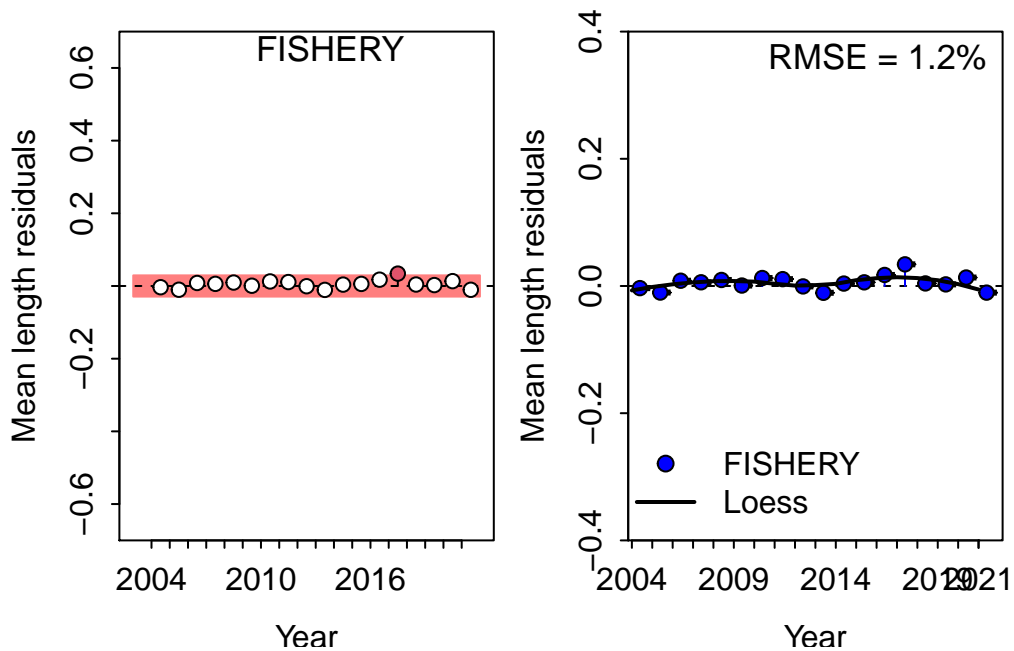
Length Comp

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

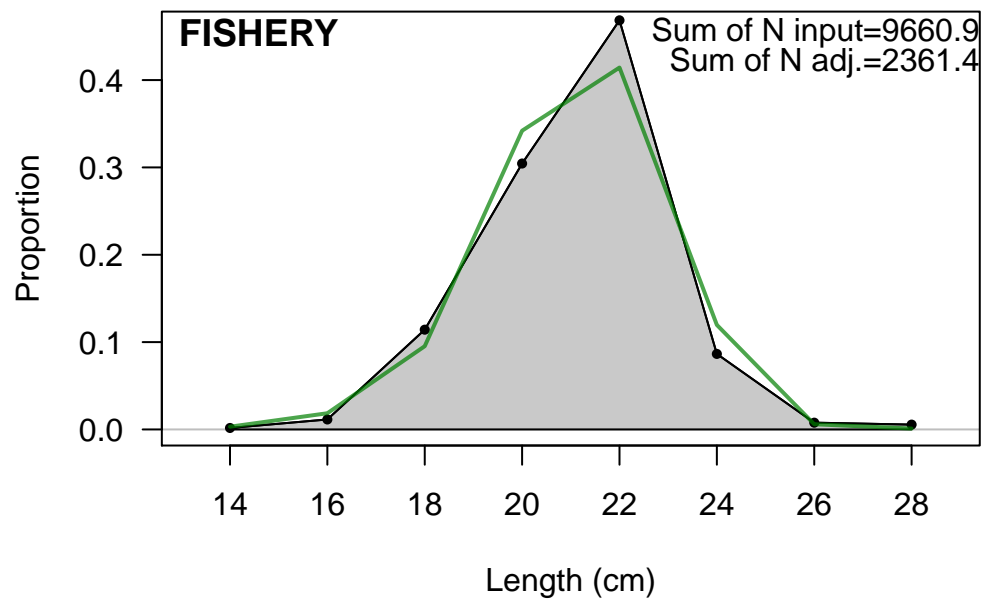
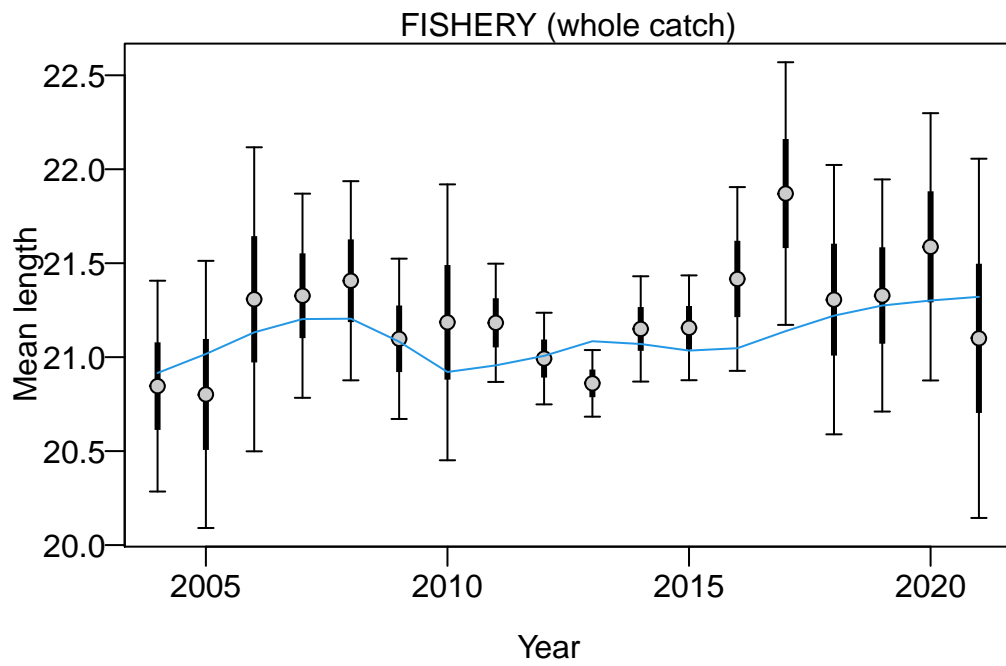
```
Index runs.p  test  sigma3.lo  sigma3.hi  type
1 FISHERY    0.024 Failed -0.02915157 0.02915157  len
```

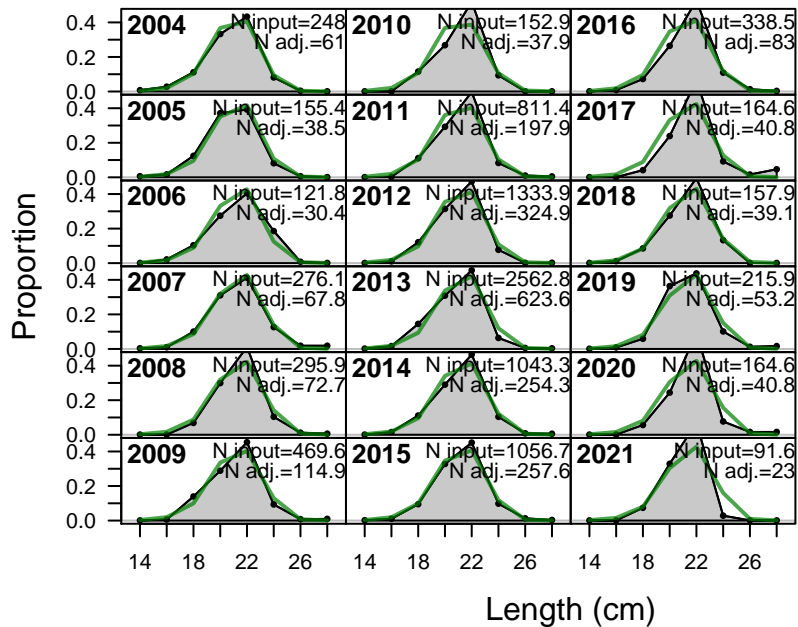
RMSE stats by Index:

```
# A tibble: 2 x 3
  Fleet    RMSE.perc  Nobs
  <chr>      <dbl> <int>
1 FISHERY      1.2     18
2 Combined      1.2     18
```



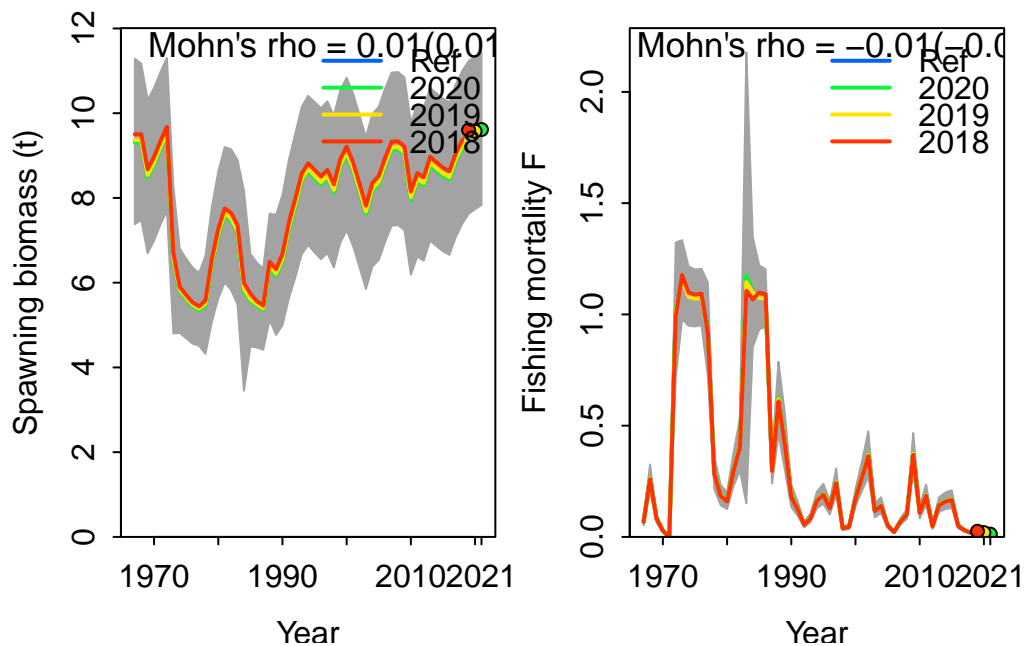
Retrospective and Hindcasting





Retrospective

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



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

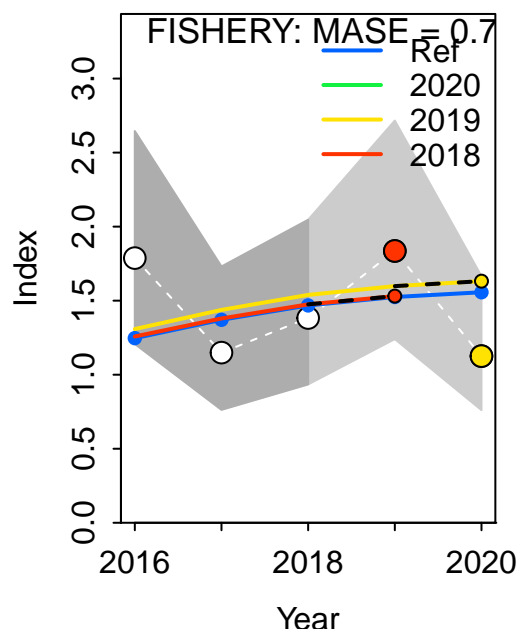
	type	peel	Rho	ForecastRho
1	F	2020	0.002208598	0.002156153
2	F	2019	-0.005064703	-0.004988472
3	F	2018	-0.018216148	-0.017582249
4	F Combined		-0.007024084	-0.006804856

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



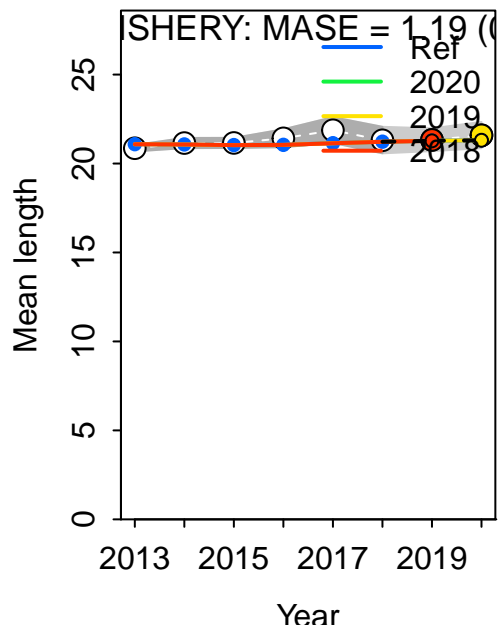
MASE stats by Index:

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:

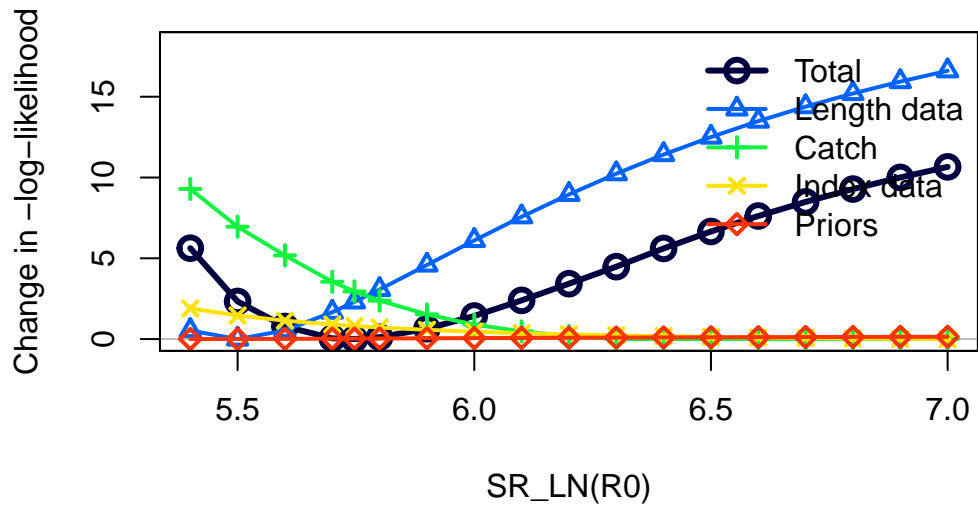


Recruitment Deviations

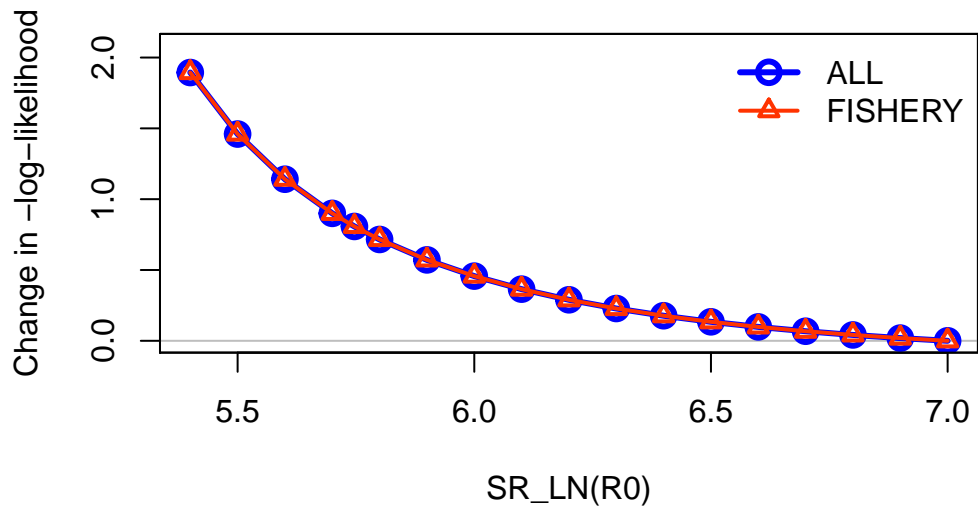
Likelihood Profile

[1] "SR_LN"				
	frac_change	include		label
TOTAL	1.0000	TRUE		Total
Catch	0.8719	TRUE		Catch
Equil_catch	0.0000	FALSE		Equilibrium catch
Survey	0.1777	TRUE		Index data
Length_comp	1.5580	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	0.0134	TRUE		Priors

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

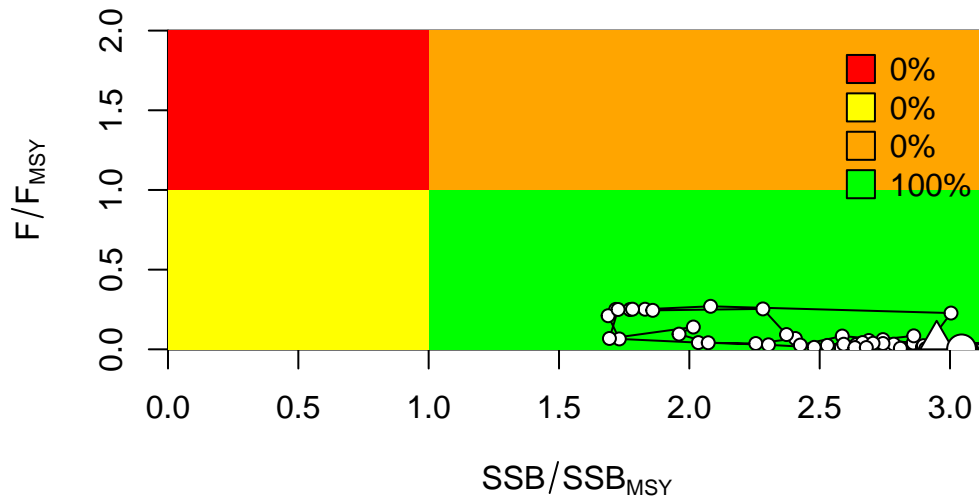


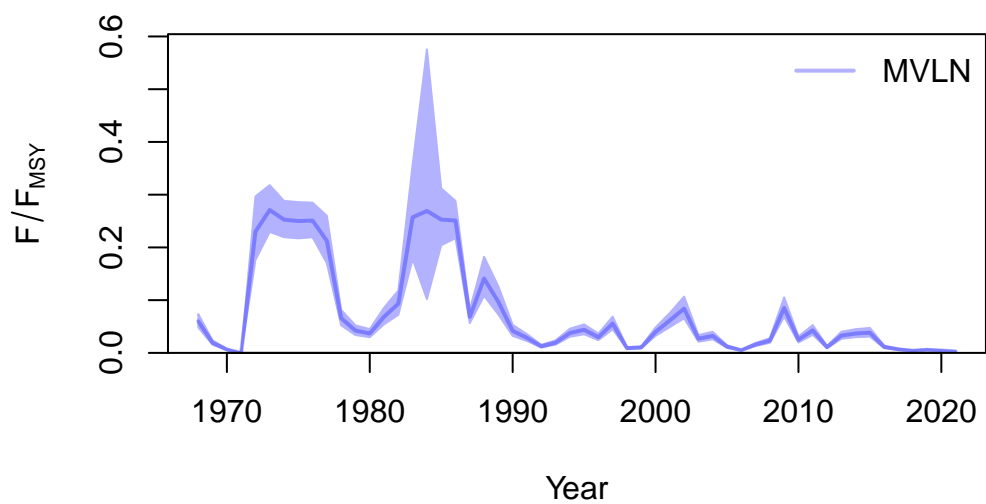
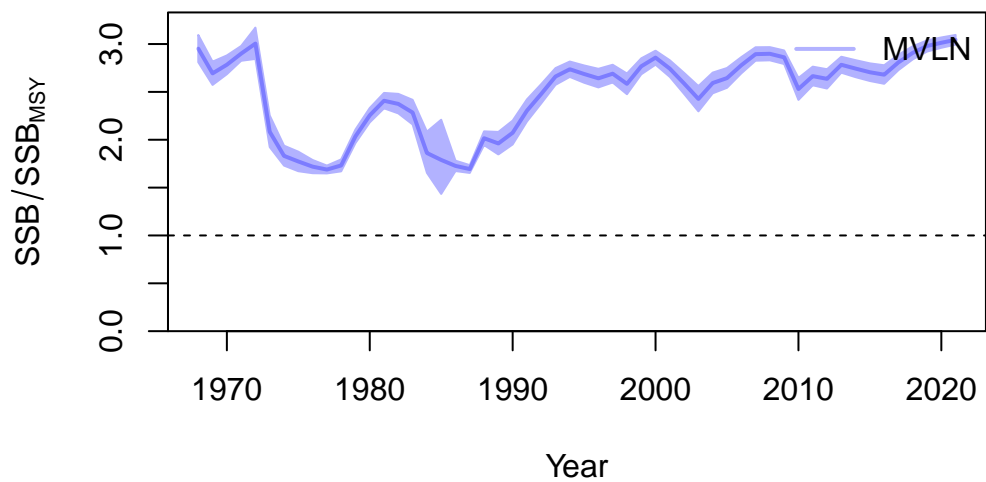
Changes in survey likelihood by fleet

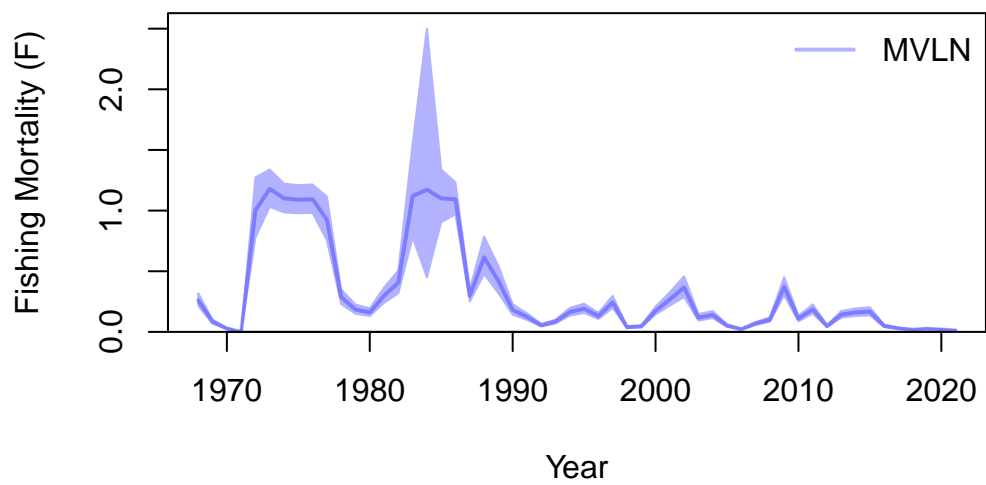
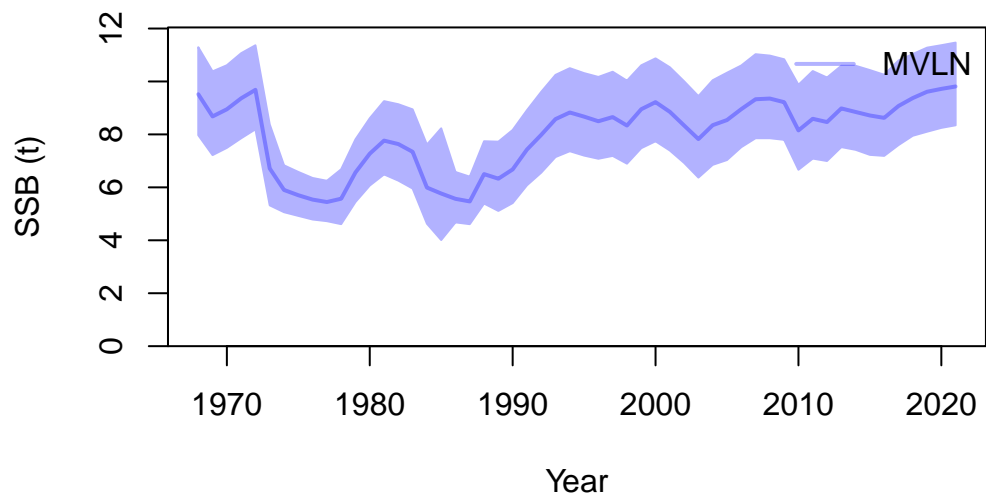


Management Quantities

starter.sso with Bratio: SSB/SSB_{MSY} and F: `_abs_F`







null device
1

Jitter

