

American Samoa Model Checks

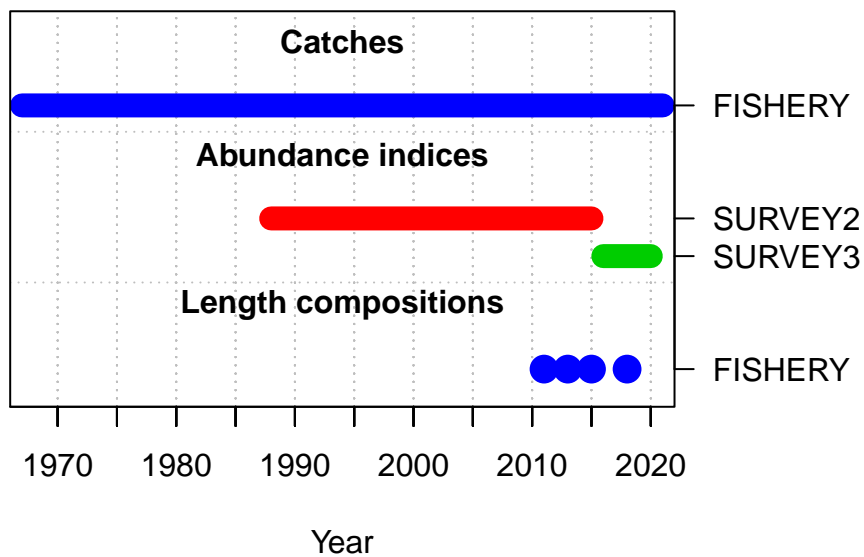
Marc Nadon and Meg Oshima

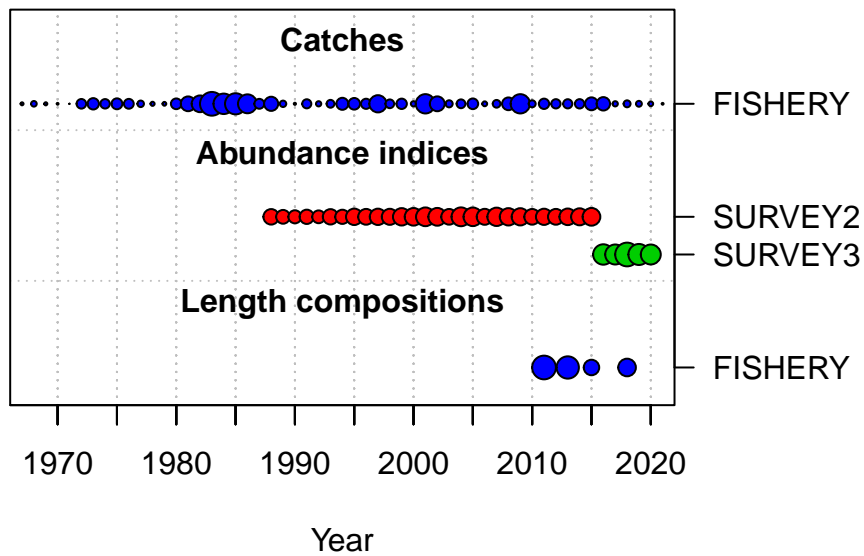
2023-02-15

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

Model Output

Input Data





Convergence Check

```

Converged      MaxGrad
1      TRUE 2.28095e-05

```

```

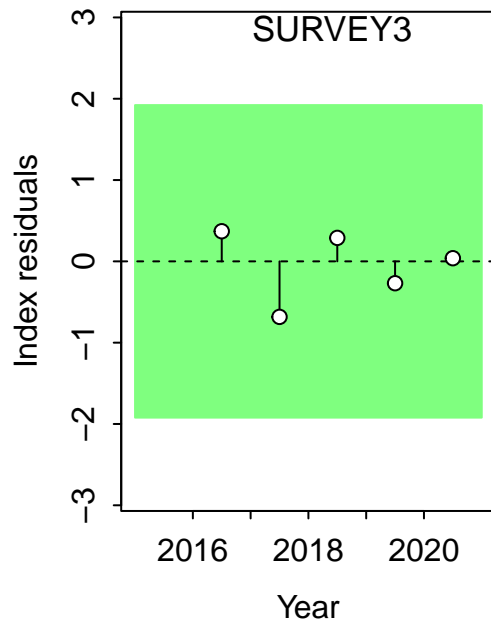
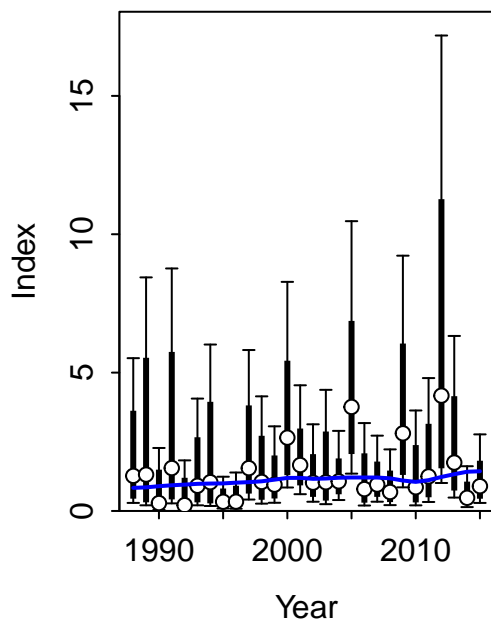
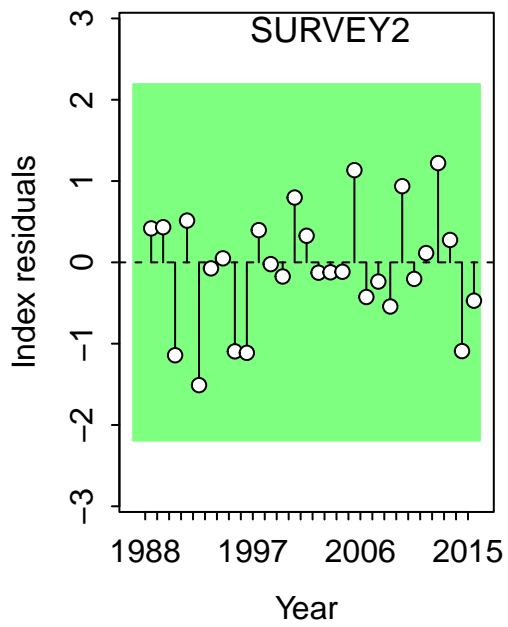
[1] "1 NOTE:  Max data length bin: 48 < max pop len bins: 53; so will accumulate larger pop
[2] " N parameters are on or within 1% of min-max bound: 1; check results, variance may be s
[3] "N warnings: 1"

```

Fit to Model

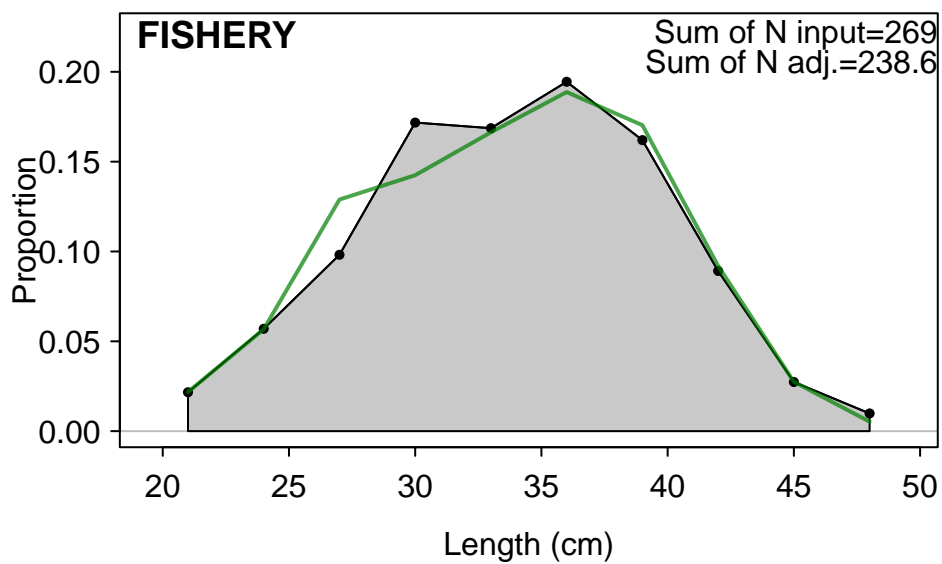
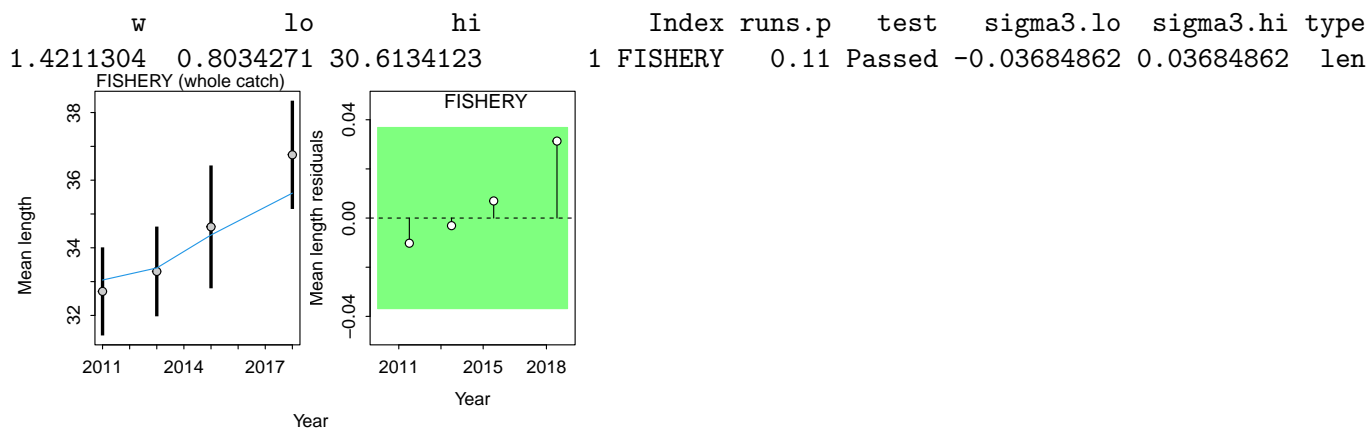
CPUE

Fleet	RMSE.perc	Nobs
SURVEY2	69.1	28
SURVEY3	39.0	5
Combined	65.4	33

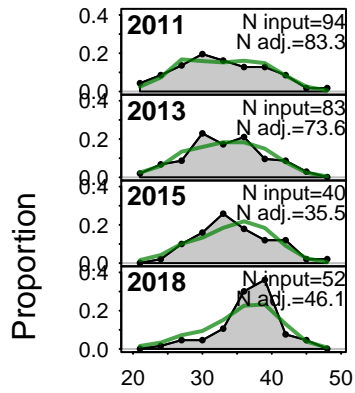


Length Comp

Fleet	RMSE.perc	Nobs
FISHERY	1.7	4
Combined	1.7	4



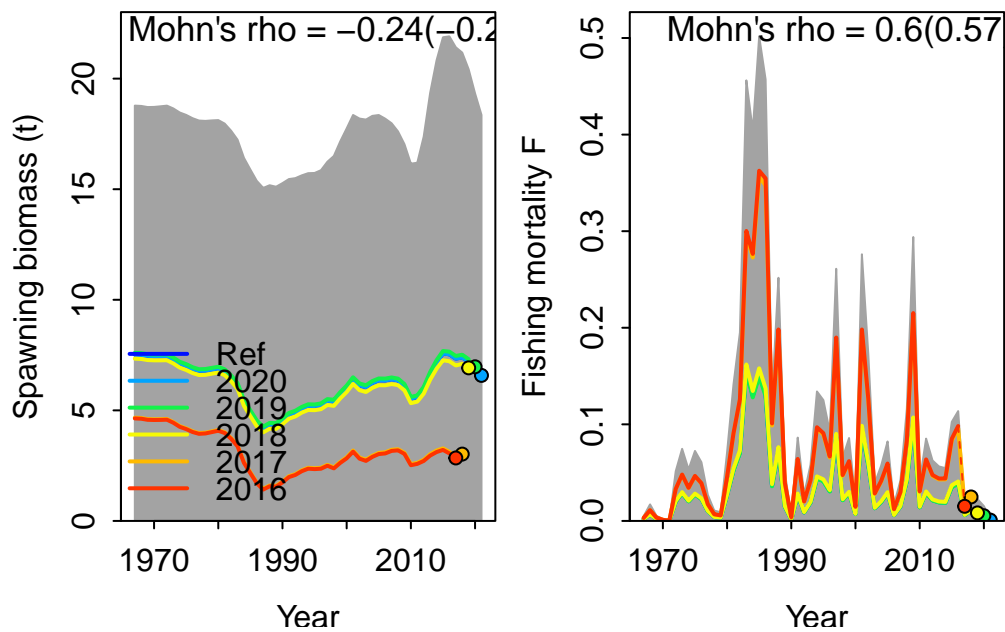
Retrospective and Hindcasting



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	0.00000000	0.00000000
2	F	2019	-0.01609606	-0.01604962
3	F	2018	0.03968477	0.03838484
4	F	2017	1.46386863	1.32022661
5	F	2016	1.51077898	1.49843122
6	F Combined		0.59964726	0.56819861

Hindcasting

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

No observations in evaluation years to compute prediction residuals for Index SURVEY2

MASE stats by Index:

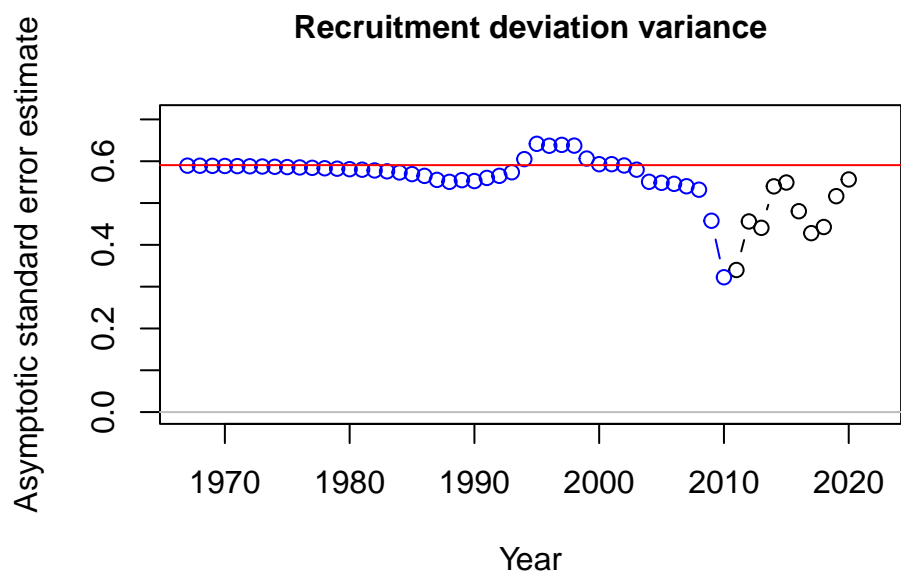
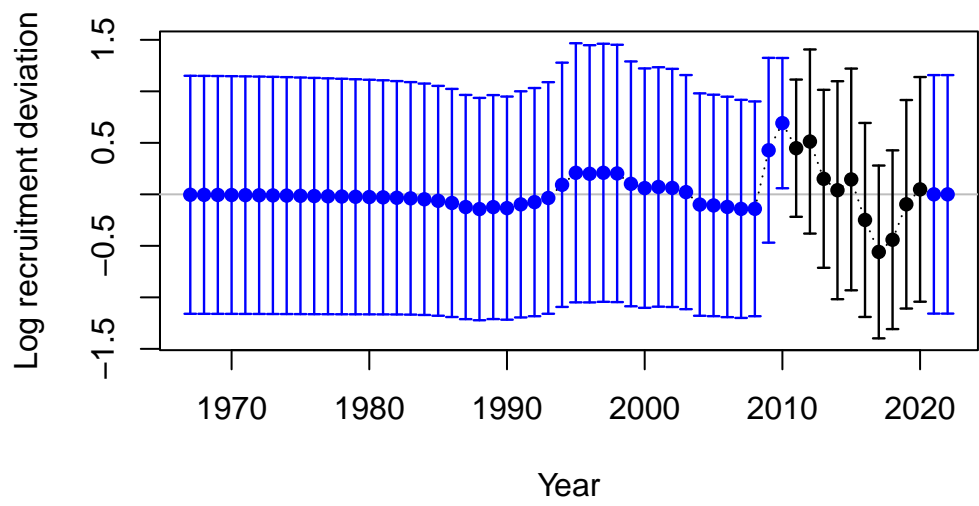
Plotting Hindcast Cross-Validation (one-step-ahead)

No observations in evaluation years to compute prediction residuals for Index FISHERY

MASE stats by Index:

	Index	Season	MASE	MAE.PR	MAE.base	MASE.adj	n.eval
1	FISHERY	1	NA	NA	NA	NA	0

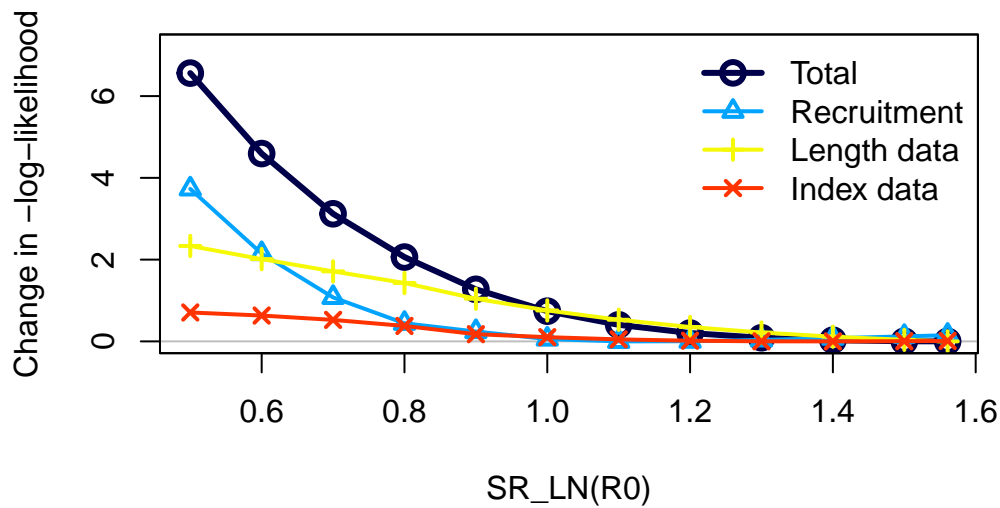
Recruitment Deviations



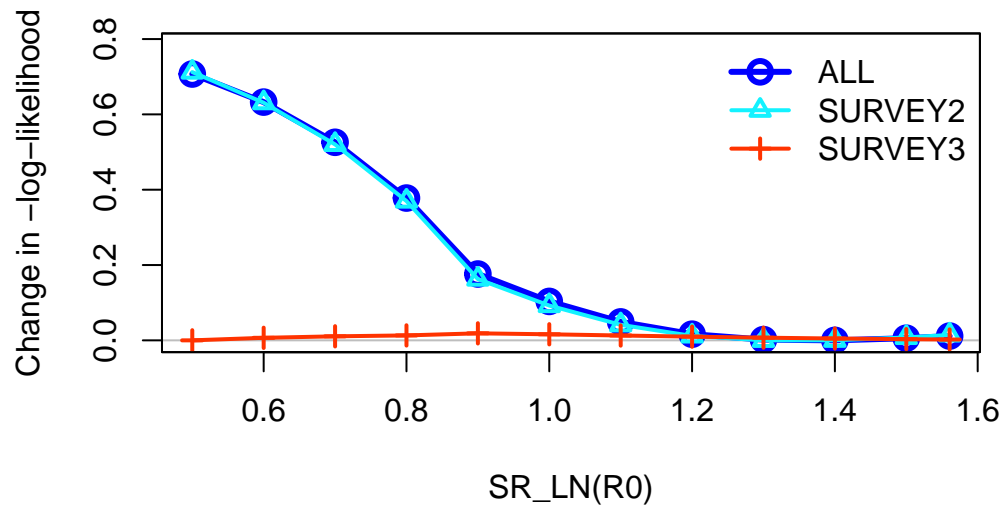
Likelihood Profile

[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	0.1078	TRUE	Index data
Length_comp	0.3557	TRUE	Length data
Recruitment	0.5684	TRUE	Recruitment
InitEQ_Regime	0.0000	FALSE	Initital equilibrium recruitment
Forecast_Recruitment	0.0000	FALSE	Forecast recruitment
Parm_priors	0.0070	FALSE	Priors
Parm_softbounds	0.0001	FALSE	Soft bounds
Parm_devs	0.0000	FALSE	Parameter deviations
Crash_Pen	0.0000	FALSE	Crash penalty

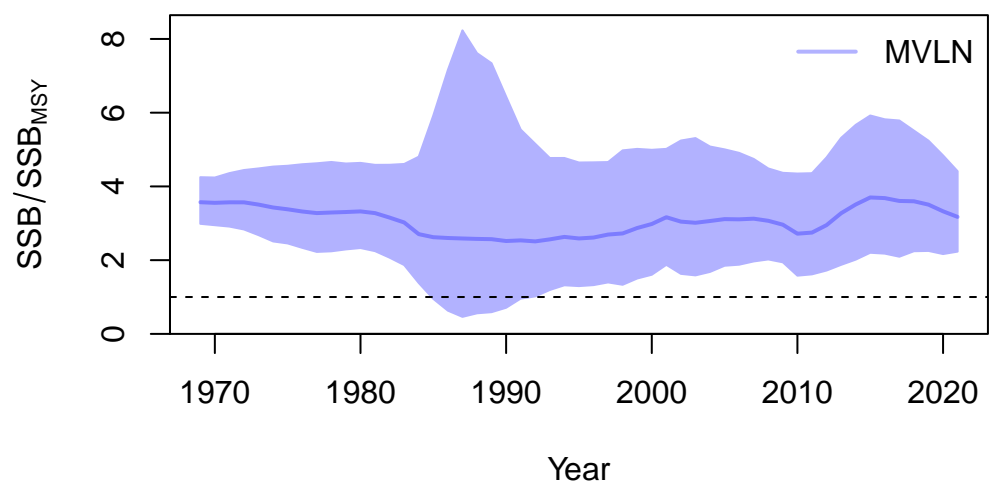
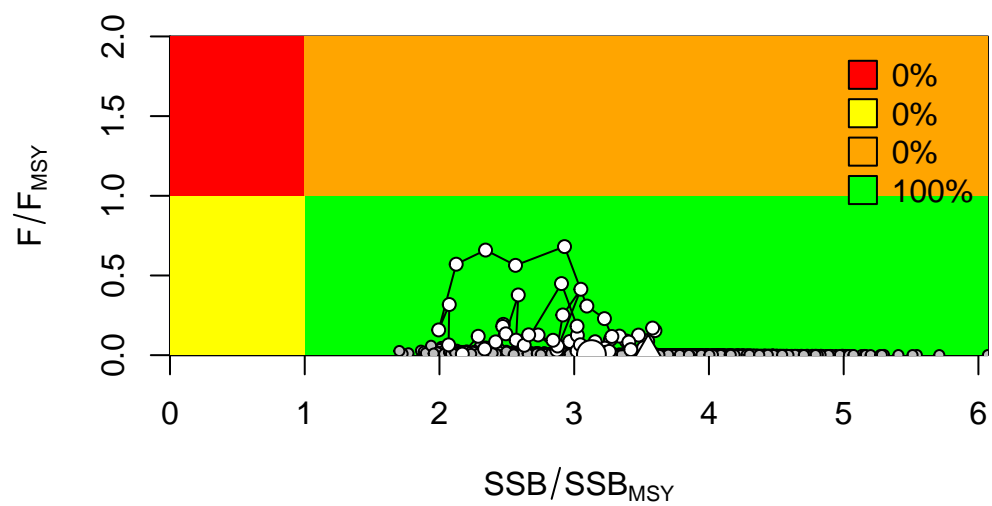


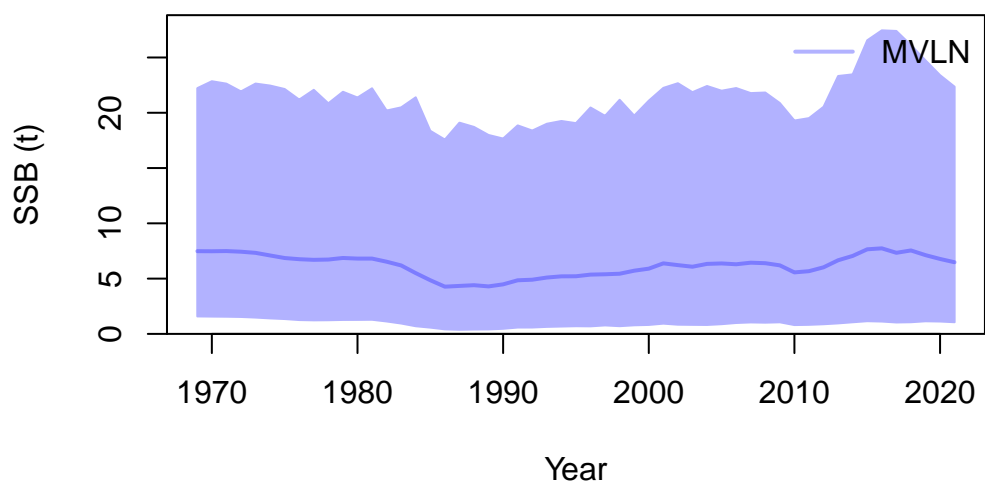
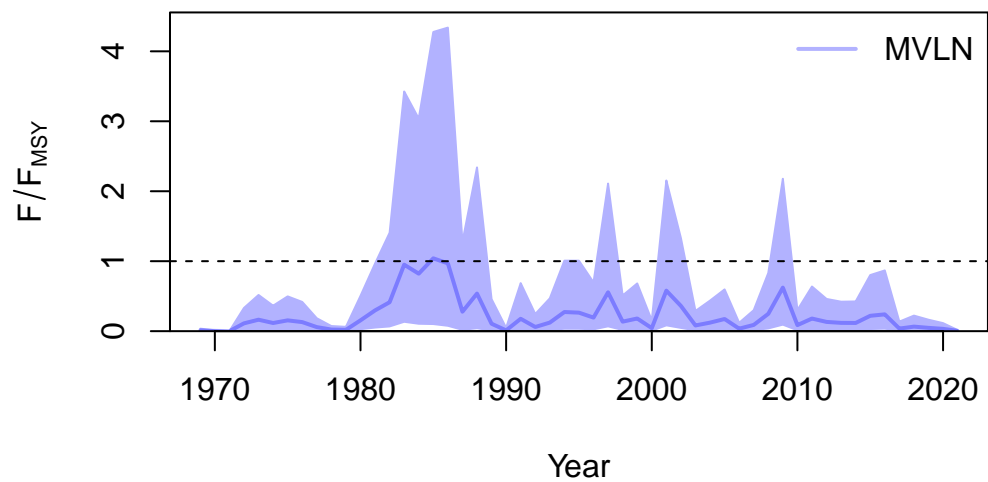
Changes in survey likelihood by fleet

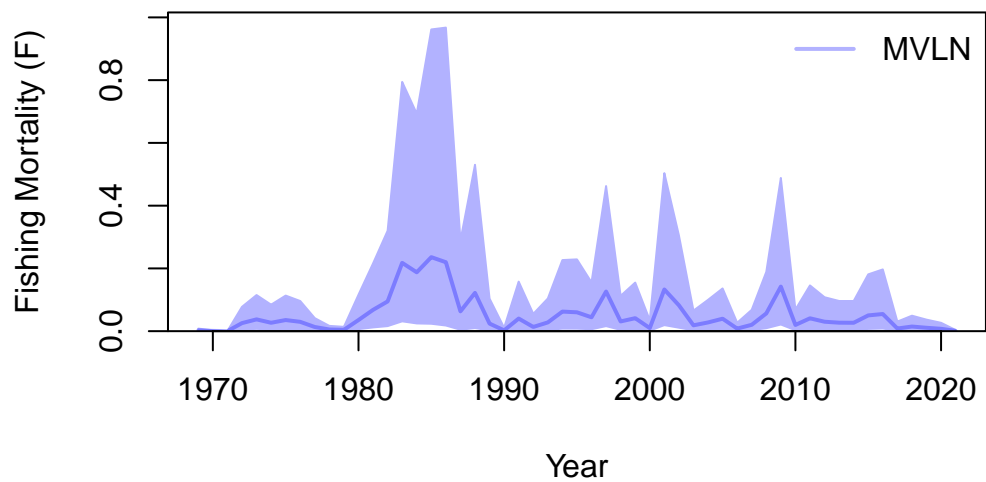


Management Quantities

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







```
null device
1
```

Jitter

```
[1] "No jitter runs were found."
```

Selectivity and Maturity

