

American Samoa Model Checks

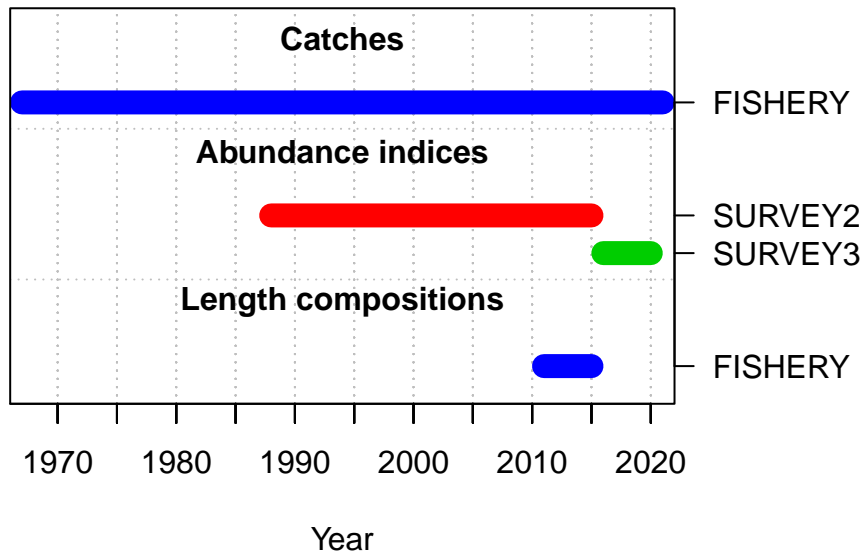
Marc Nadon and Meg Oshima

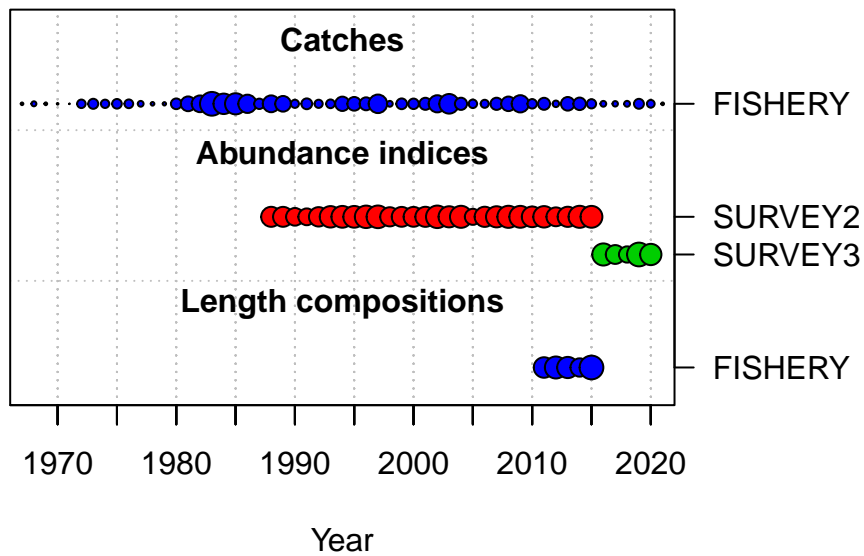
2023-02-14

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

Model Output

Input Data





Convergence Check

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Converged    MaxGrad
1          TRUE 9.9149e-05

```

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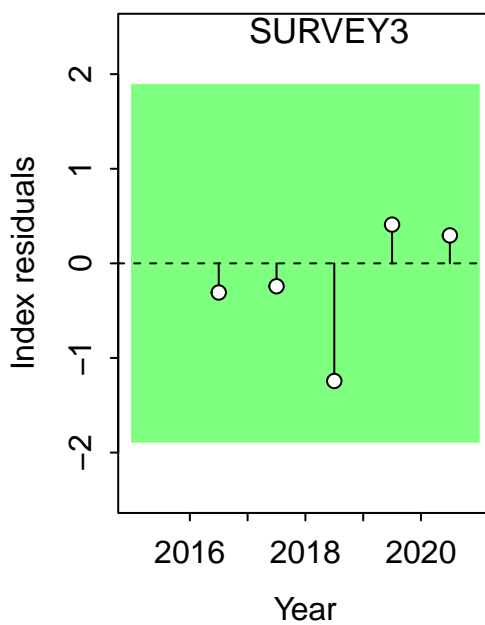
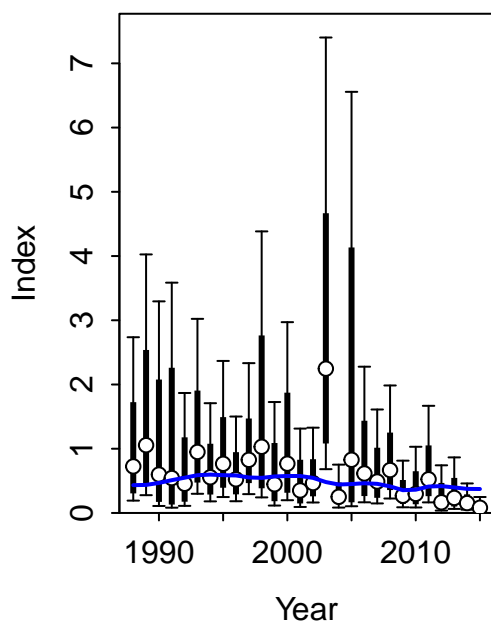
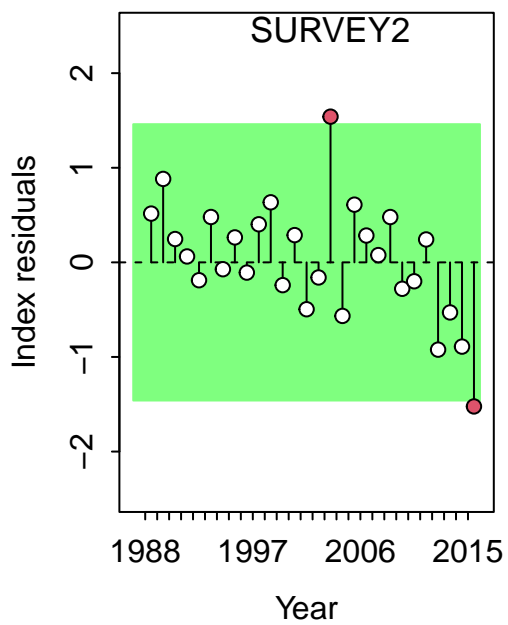
[1] "1 NOTE:  Max data length bin: 51  < max pop len bins: 57; so will accumulate larger pop
[2] " N parameters are on or within 1% of min-max bound: 1; check results, variance may be s
[3] "N warnings: 1"

```

Fit to Model

CPUE

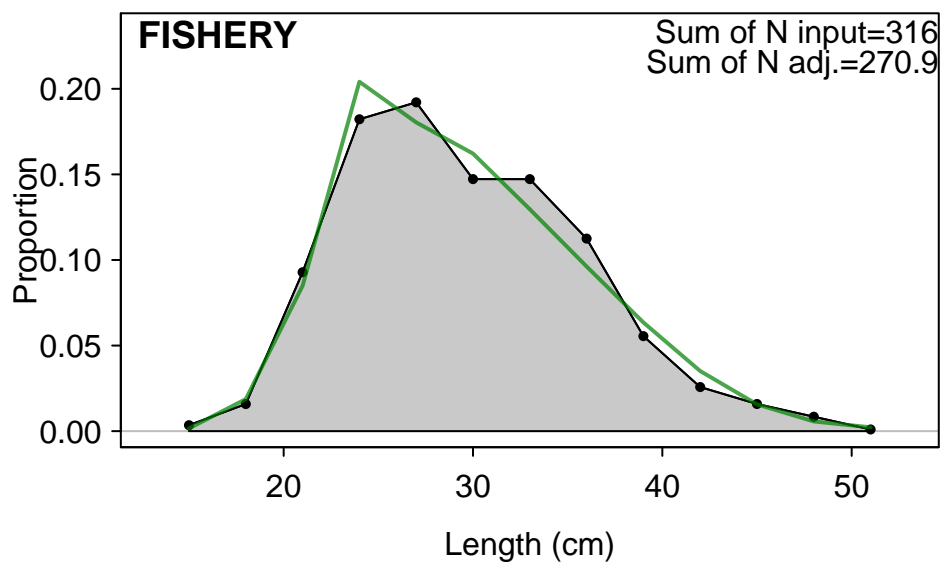
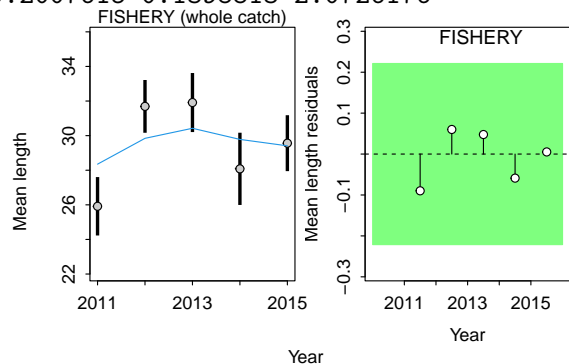
Fleet	RMSE.perc	Nobs
SURVEY2	60.5	28
SURVEY3	62.5	5
Combined	60.8	33



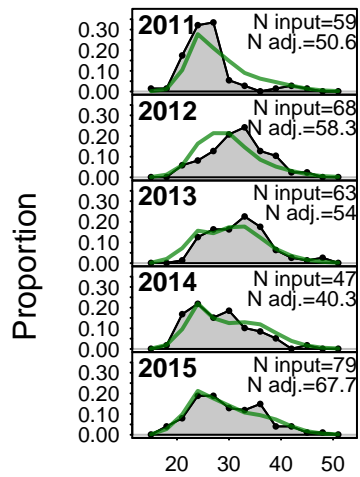
Length Comp

Fleet	RMSE.perc	Nobs
FISHERY	5.9	5
Combined	5.9	5

w lo hi Index runs.p test sigma3.lo sigma3.hi type
 0.2007615 0.1398813 2.0726176 1 FISHERY 0.744 Passed -0.2213035 0.2213035 len



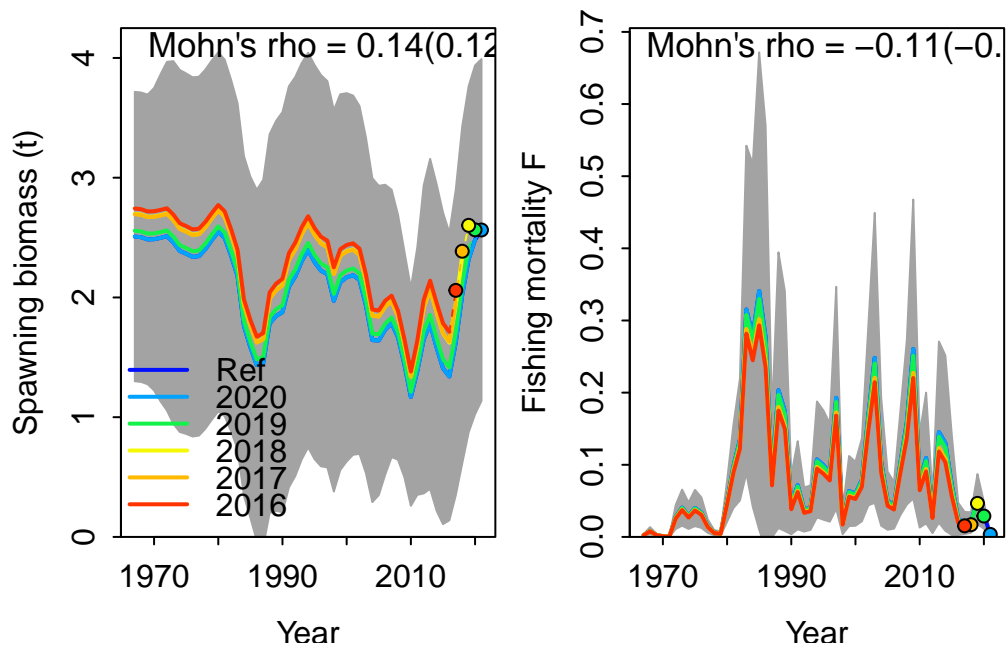
Retrospective and Hindcasting



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	-0.03890893	-0.03443052
3	F	2018	-0.13226979	-0.11325810
4	F	2017	-0.16451574	-0.14767055
5	F	2016	-0.21678648	-0.20461452
6	F Combined		-0.11049619	-0.09999474

Hindcasting

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

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

MASE stats by Index:

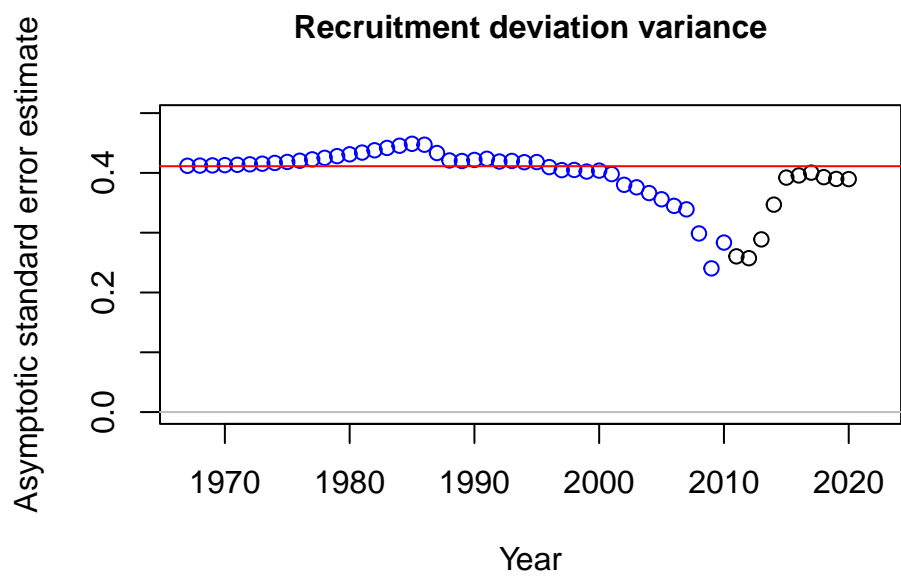
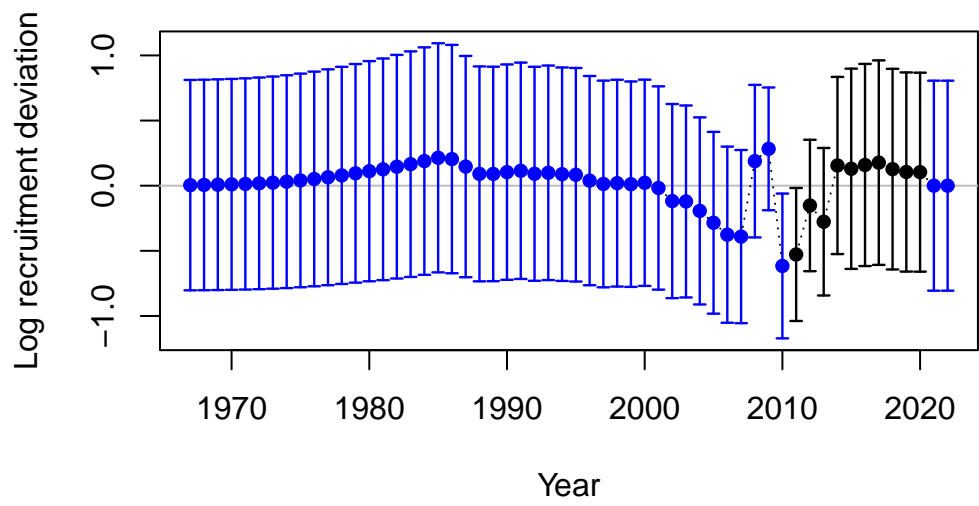
Plotting Hindcast Cross-Validation (one-step-ahead)

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

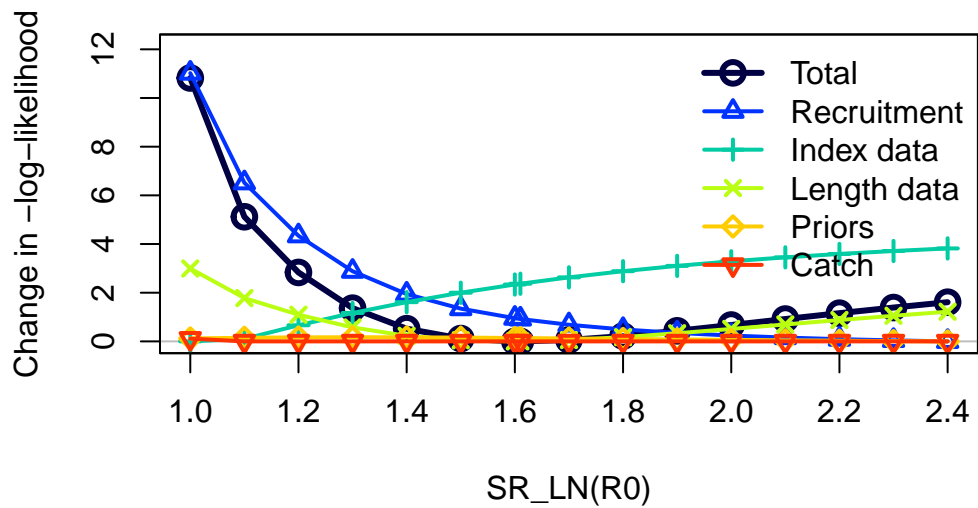
Recruitment Deviations



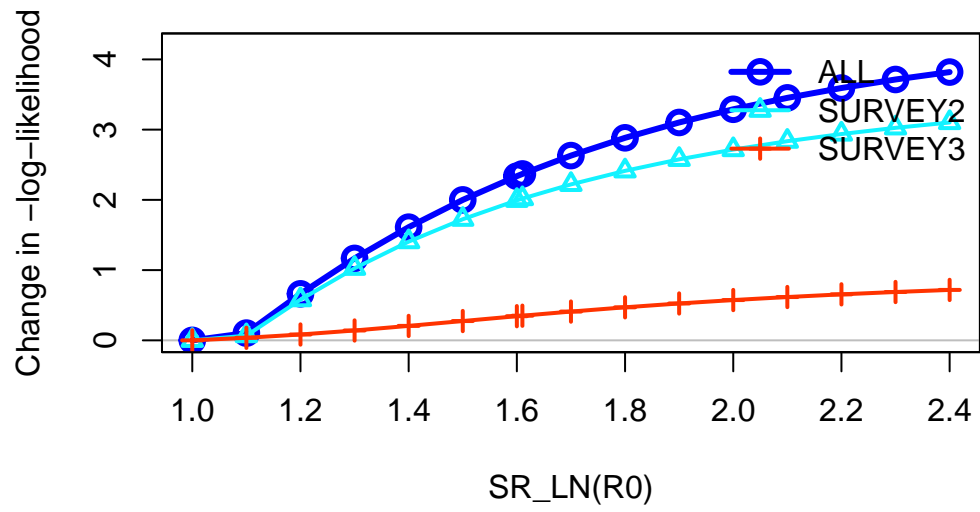
Likelihood Profile

[1] "SR_LN"

	frac_change	include	label
TOTAL	1.0000	TRUE	Total
Catch	0.0104	TRUE	Catch
Equil_catch	0.0000	FALSE	Equilibrium catch
Survey	0.3529	TRUE	Index data
Length_comp	0.2768	TRUE	Length data
Recruitment	1.0186	TRUE	Recruitment
InitEQ_Regime	0.0000	FALSE	Initital equilibrium recruitment
Forecast_Recruitment	0.0000	FALSE	Forecast recruitment
Parm_priors	0.0157	TRUE	Priors
Parm_softbounds	0.0000	FALSE	Soft bounds
Parm_devs	0.0000	FALSE	Parameter deviations
Crash_Pen	0.0000	FALSE	Crash penalty

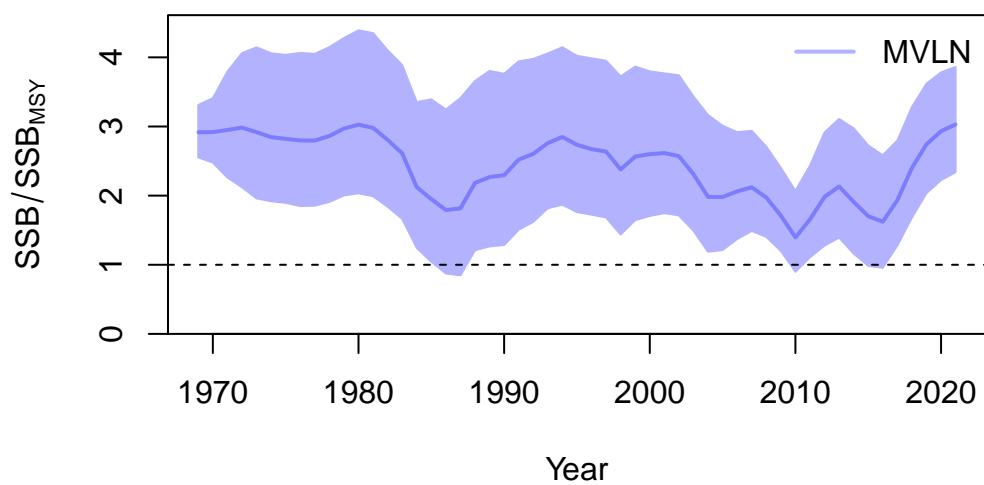
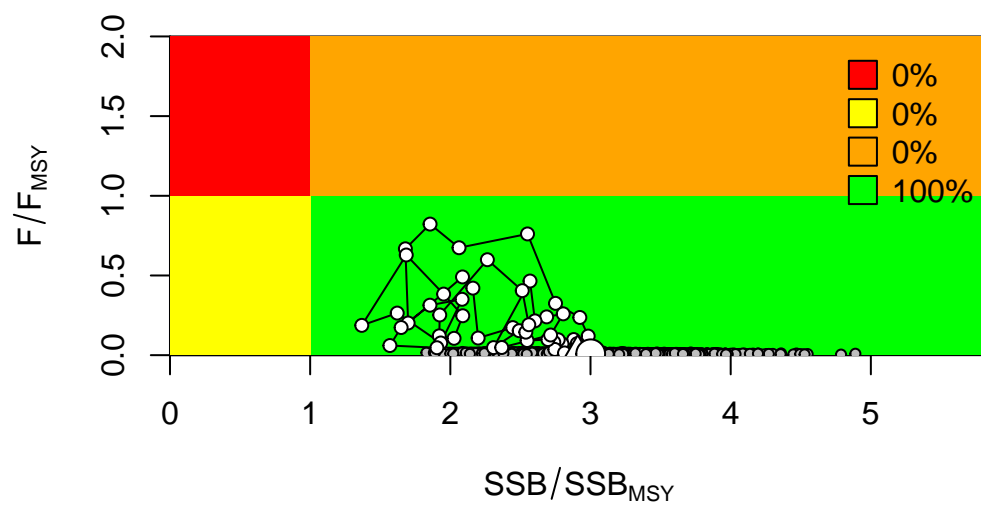


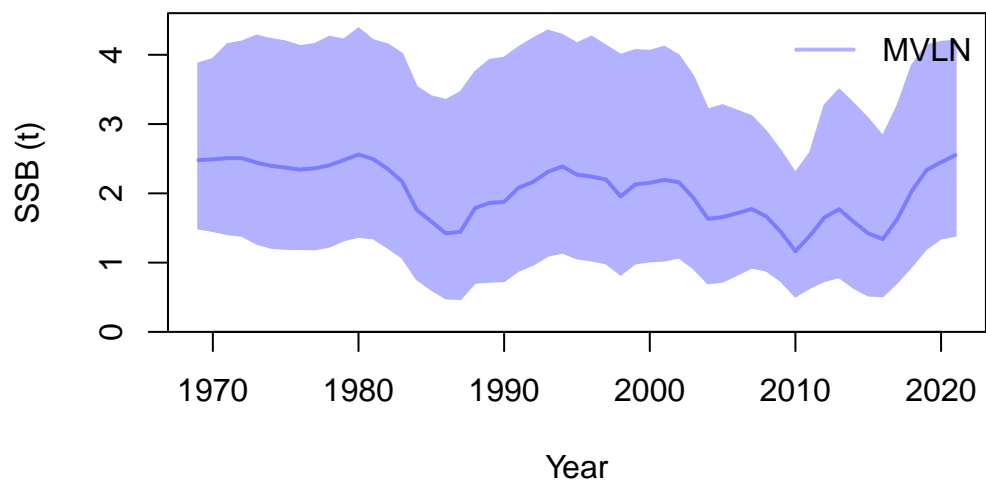
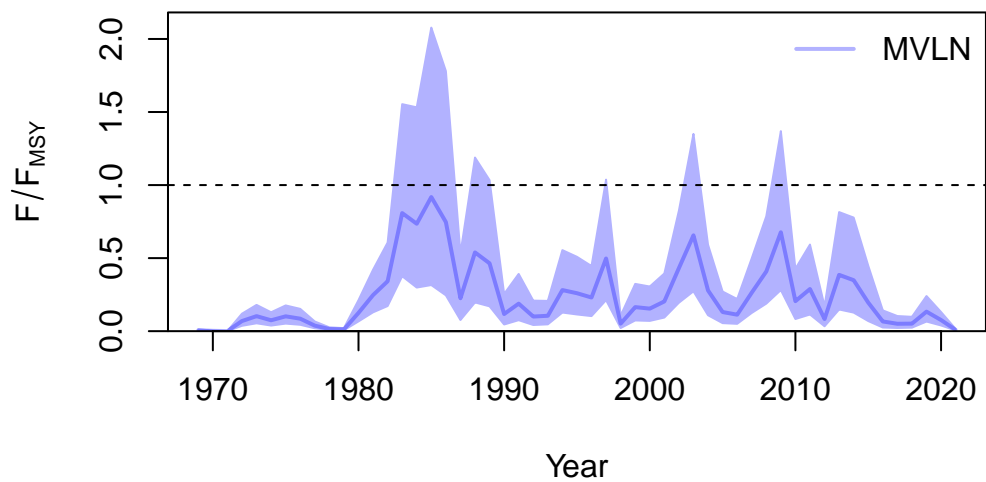
Changes in survey likelihood by fleet

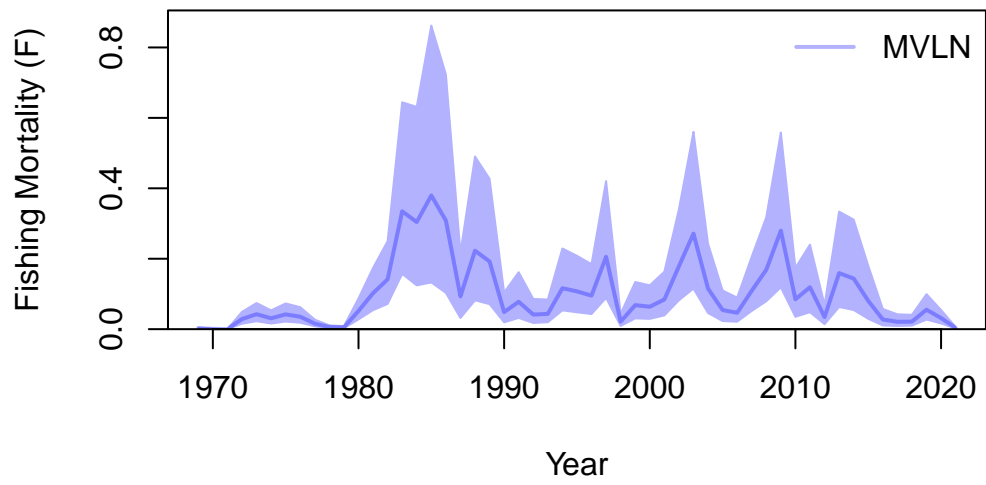


Management Quantities

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







```
null device
1
```

Jitter

```
[1] "No jitter runs were found."
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Selectivity and Maturity

