

American Samoa Model Checks

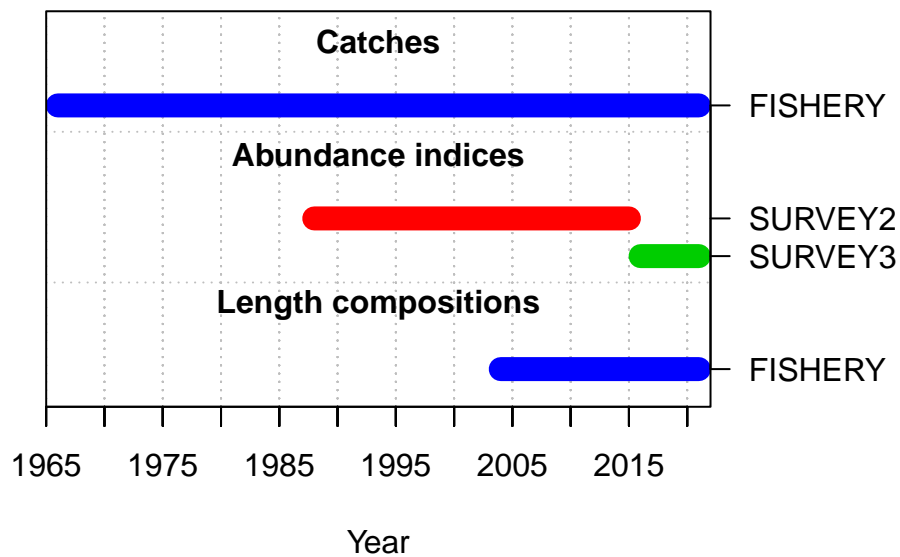
Marc Nadon and Meg Oshima

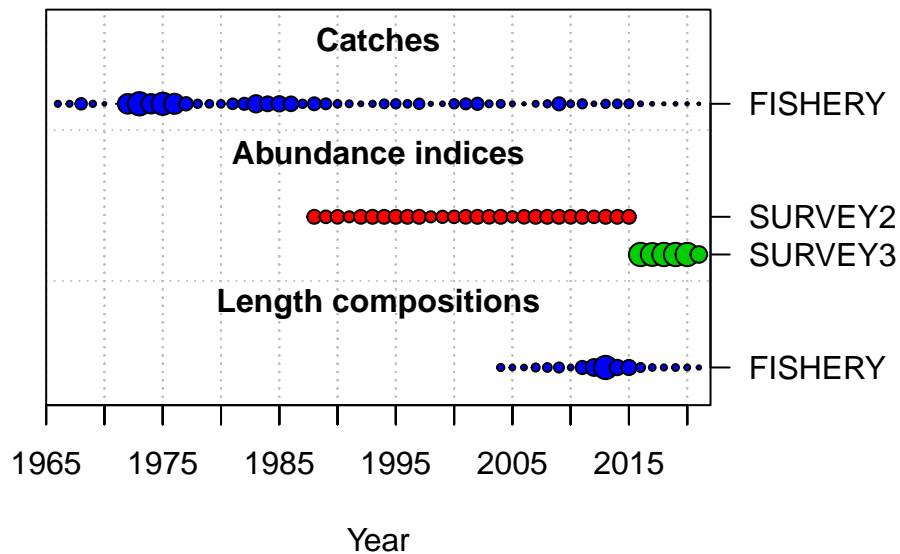
2023-02-14

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

Model Output

Input Data





Convergence Check

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Converged      MaxGrad
1      TRUE 2.25954e-05

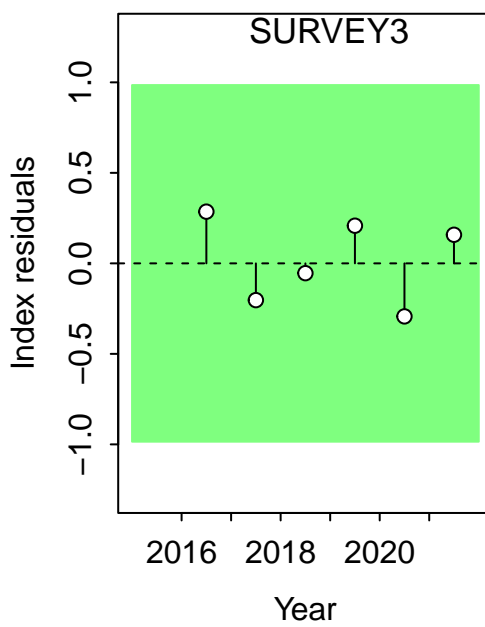
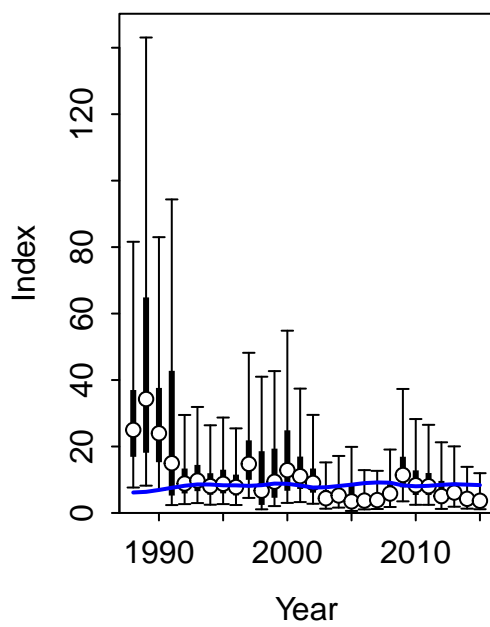
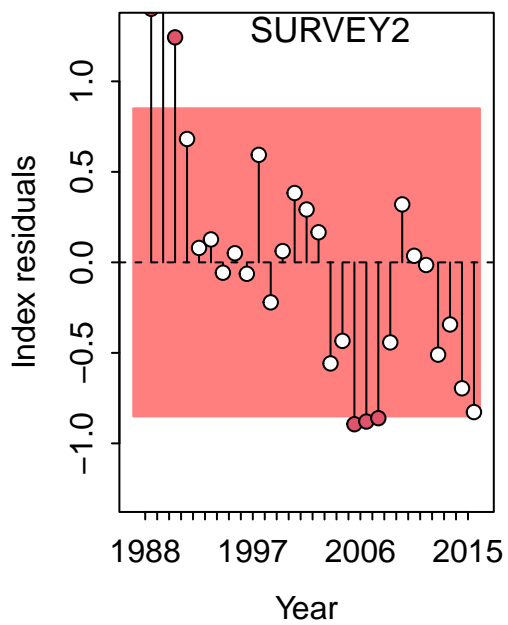
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- [1] "1 NOTE: Max data length bin: 28 < max pop len bins: 31; so will accumulate larger pop
- [2] "2 Forecast F capped by max possible F from control file: 2.9"
- [3] "3 Forecast F capped by max possible F from control file: 2.9"
- [4] " N parameters are on or within 1% of min-max bound: 1; check results, variance may be s
- [5] "N warnings: 3"

Fit to Model

CPUE

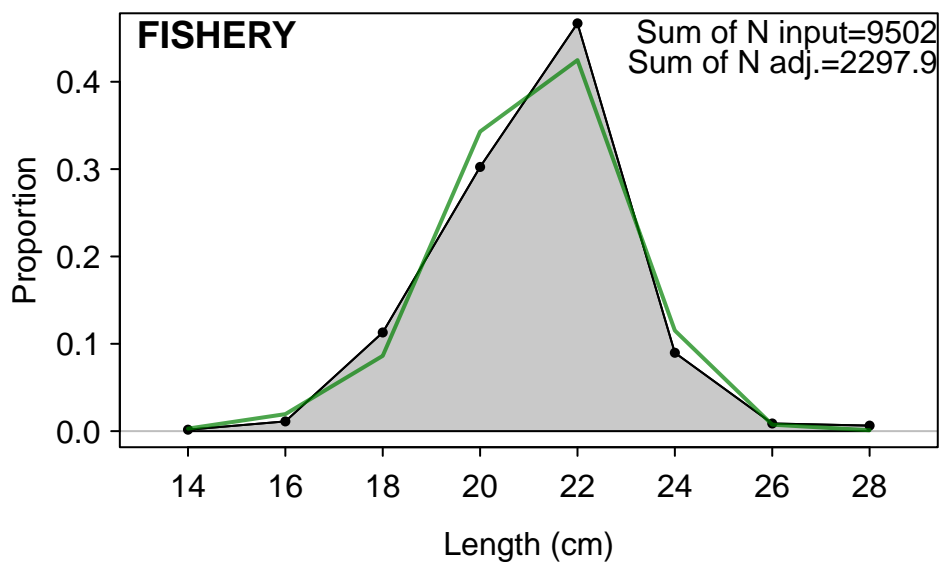
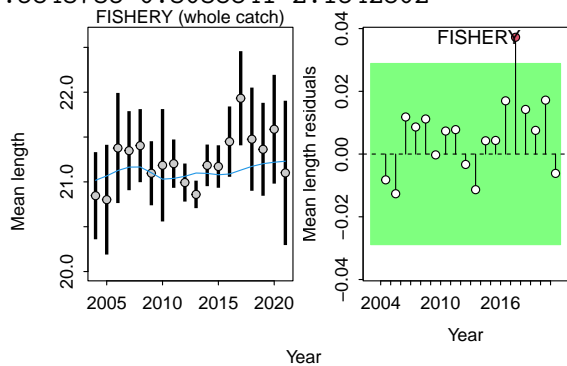
Fleet	RMSE.perc	Nobs
SURVEY2	65.9	28
SURVEY3	21.6	6
Combined	60.5	34



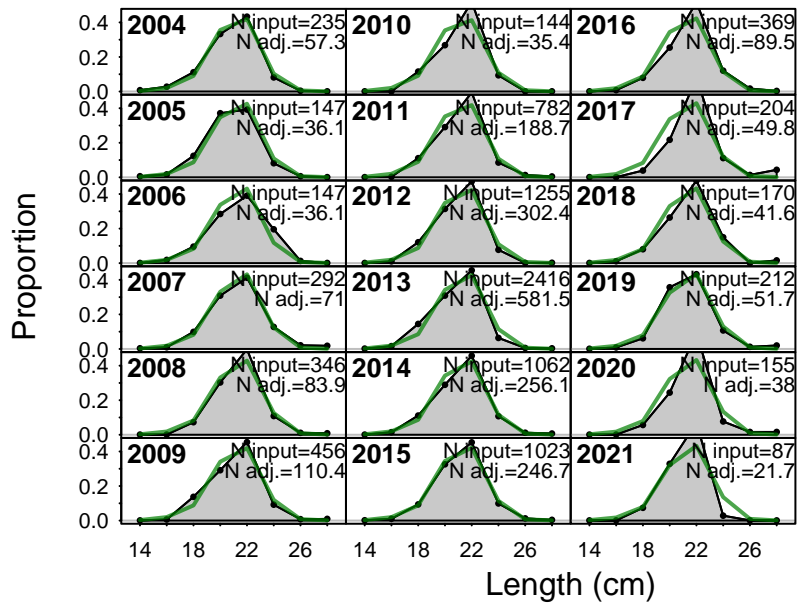
Length Comp

Fleet	RMSE.perc	Nobs
FISHERY	1.3	18
Combined	1.3	18

w lo hi Index runs.p test sigma3.lo sigma3.hi type
 0.5843735 0.3038841 2.1542802 1 FISHERY 0.135 Passed -0.02887331 0.02887331 len

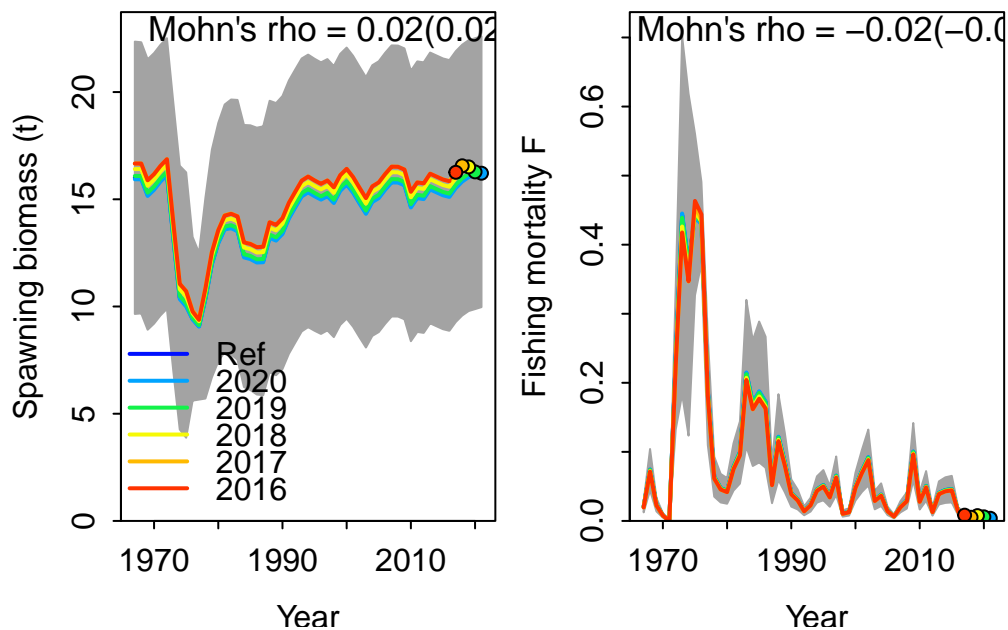


Retrospective and Hindcasting



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	0.003140796	0.003079406
2	F	2019	-0.005398049	-0.005335509
3	F	2018	-0.025206828	-0.024788074
4	F	2017	-0.040355488	-0.039375596
5	F	2016	-0.038757175	-0.037570519
6	F Combined		-0.021315349	-0.020798059

Hindcasting

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

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

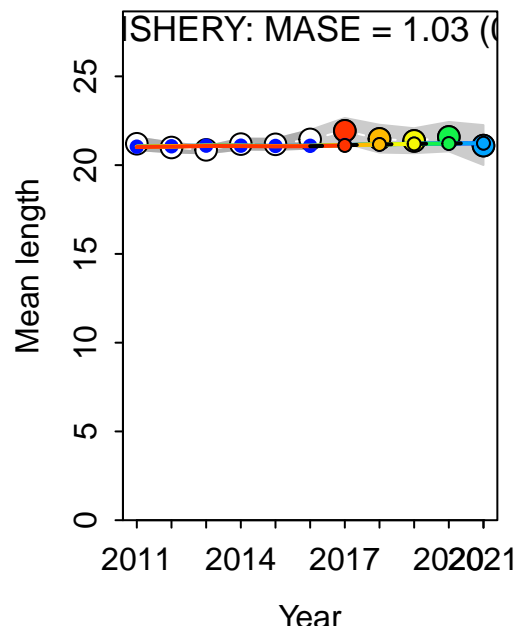
MASE stats by Index:

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

Computing MASE with all 5 of 5 prediction residuals for Index FISHERY

MASE stats by Index:

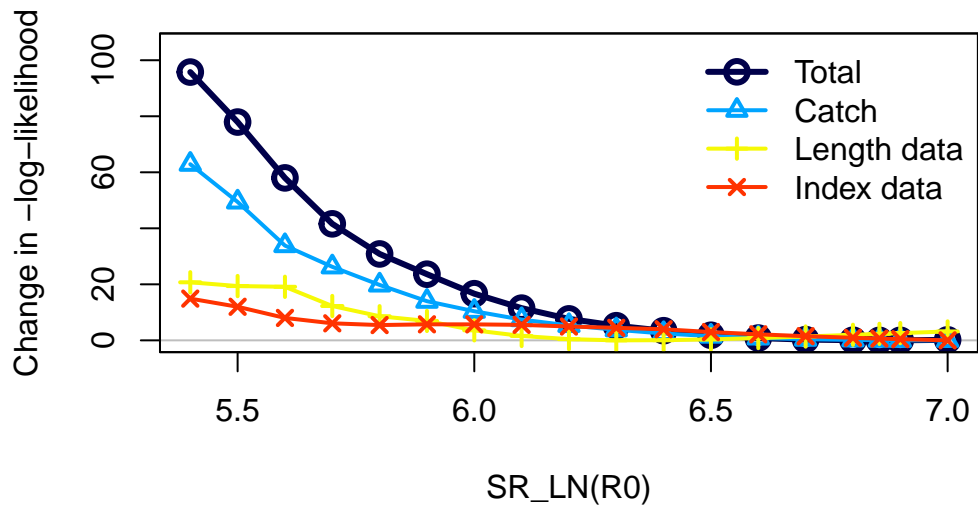
	Index	Season	MASE	MAE.PR	MAE.base	MASE.adj	n.eval
1	FISHERY	1	1.033618	0.01691747	0.01636723	0.1691747	5



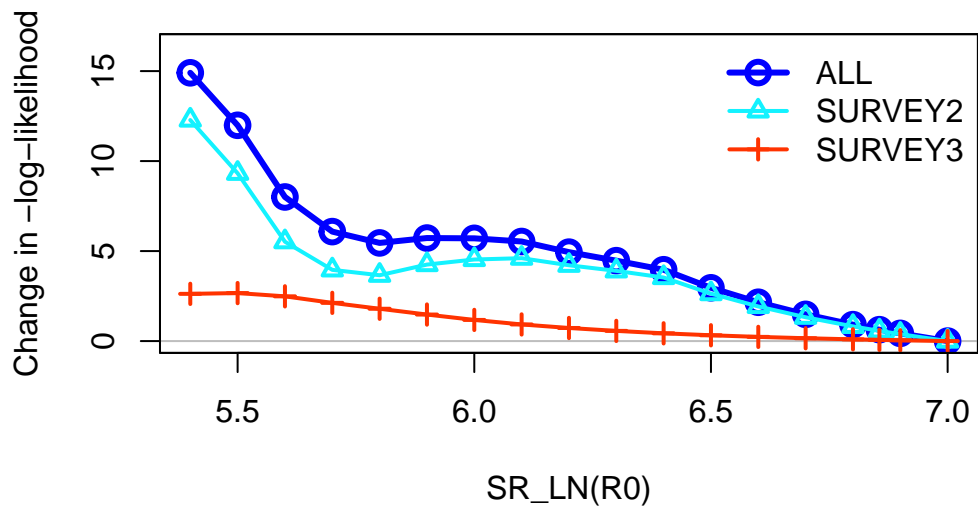
Recruitment Deviations

Likelihood Profile

[1] "SR_LN"			
	frac_change	include	label
TOTAL	1.0000	TRUE	Total
Catch	0.6566	TRUE	Catch
Equil_catch	0.0025	FALSE	Equilibrium catch
Survey	0.1556	TRUE	Index data
Length_comp	0.2164	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	0.0006	FALSE	Priors
Parm_softbounds	0.0000	FALSE	Soft bounds
Parm_devs	0.0000	FALSE	Parameter deviations
Crash_Pen	0.0000	FALSE	Crash penalty

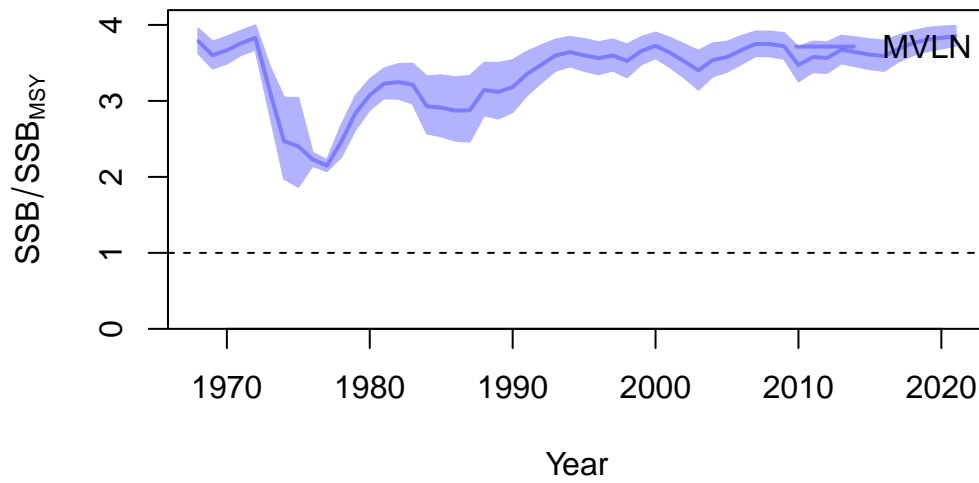
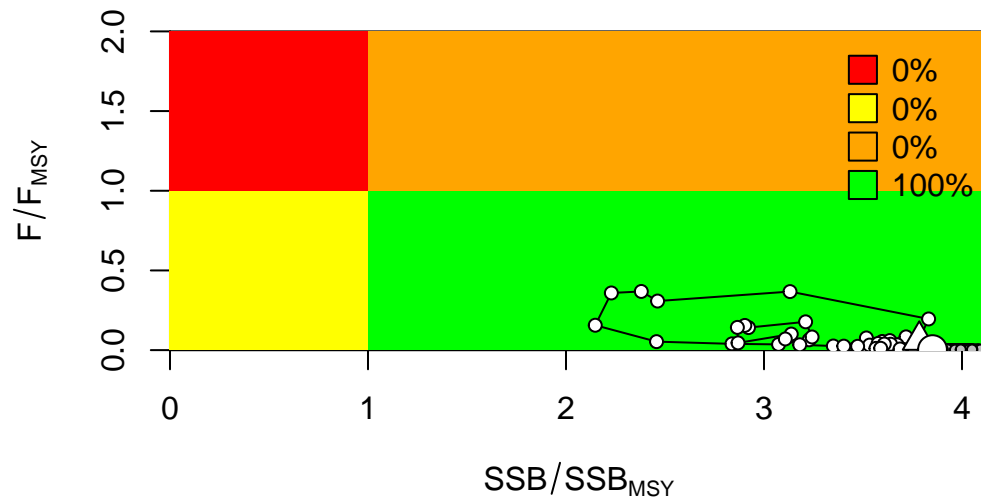


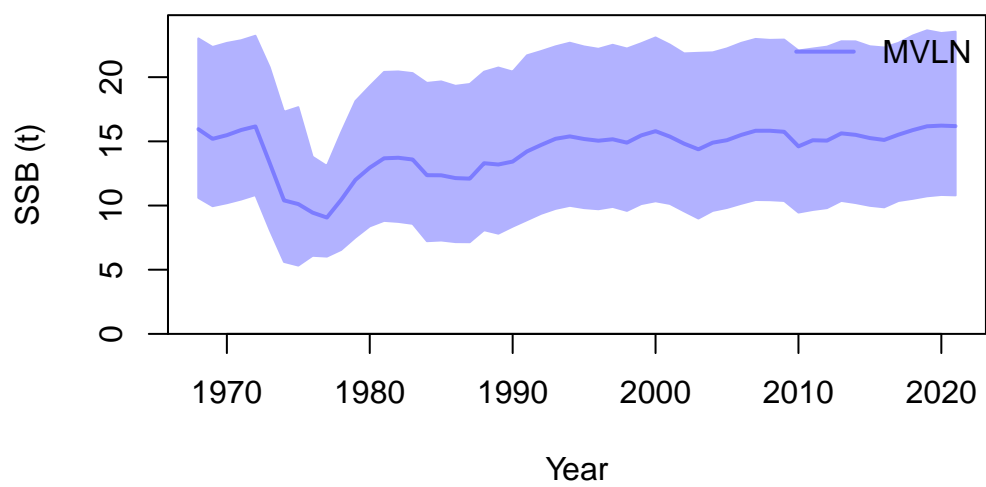
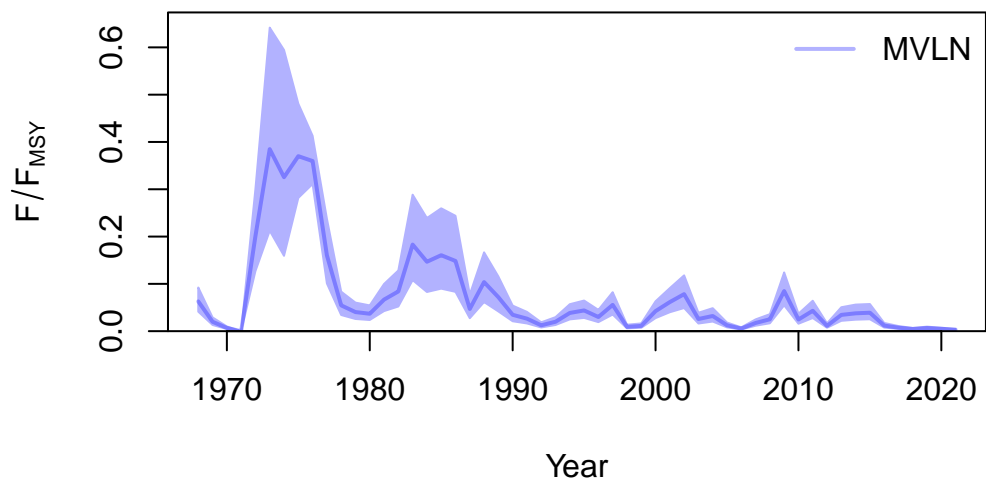
Changes in survey likelihood by fleet

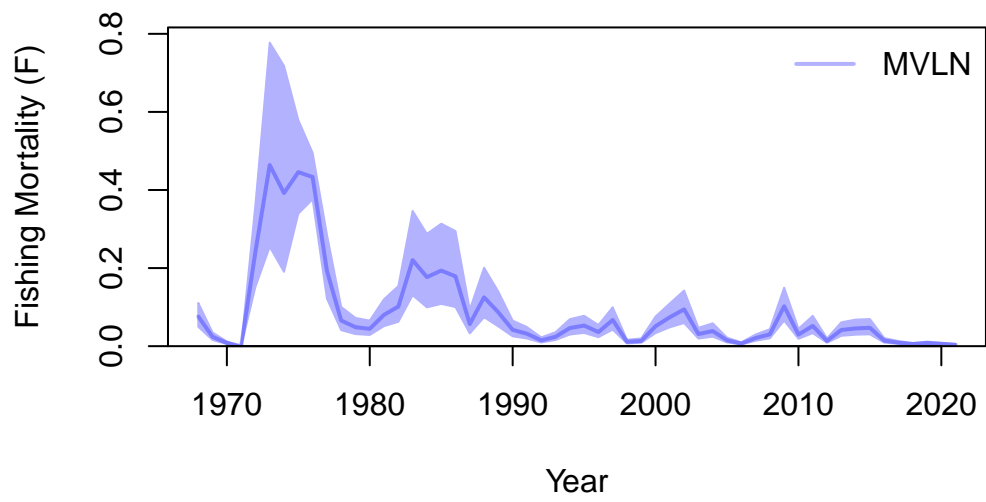


Management Quantities

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







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null device
      1
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Jitter

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

