

American Samoa Model Checks

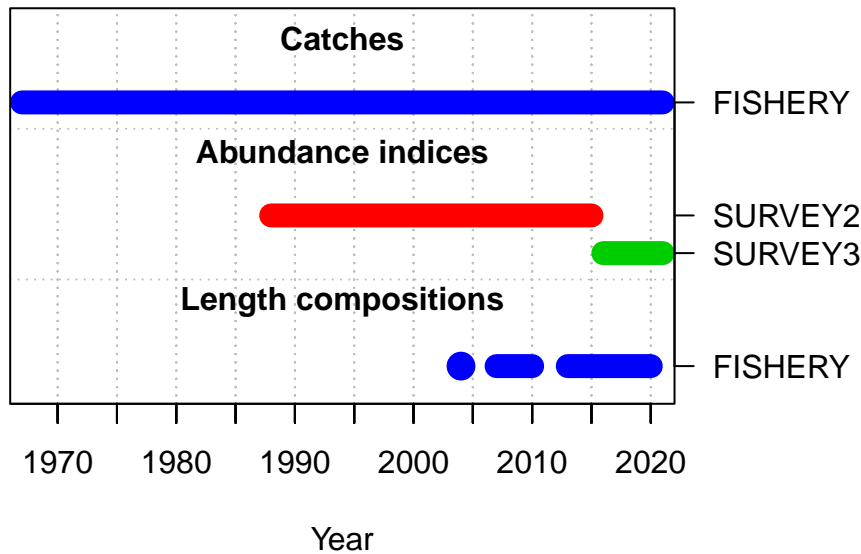
Marc Nadon and Meg Oshima

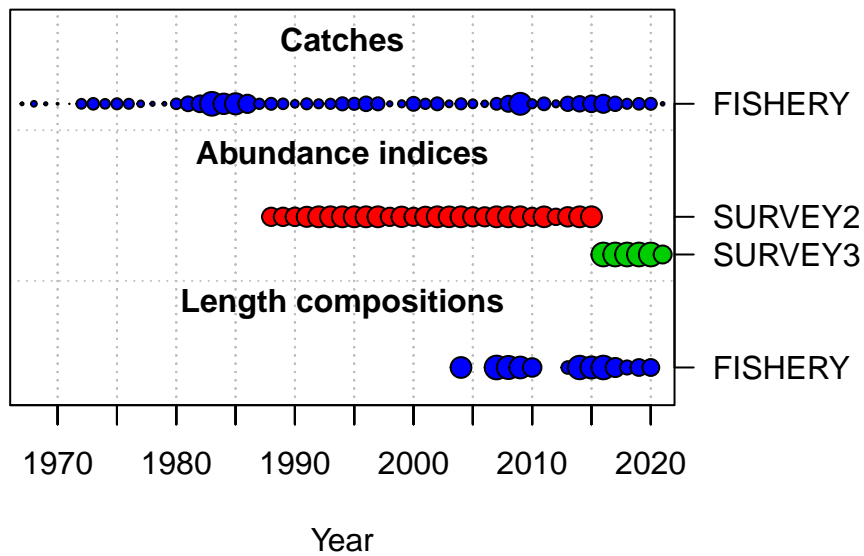
2023-02-14

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

Model Output

Input Data





Convergence Check

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Converged      MaxGrad
1      TRUE 5.17897e-05

```

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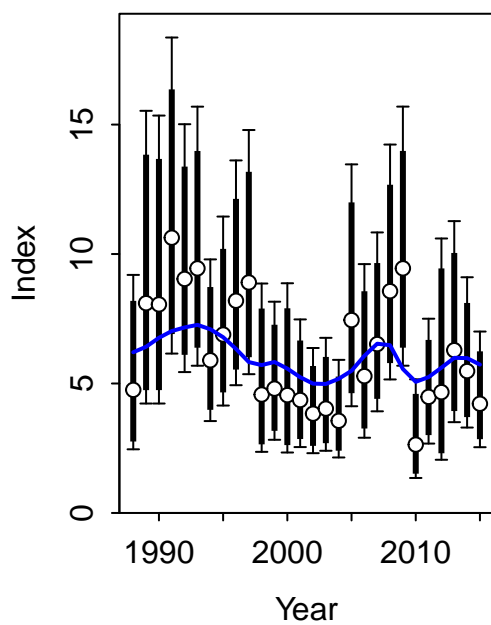
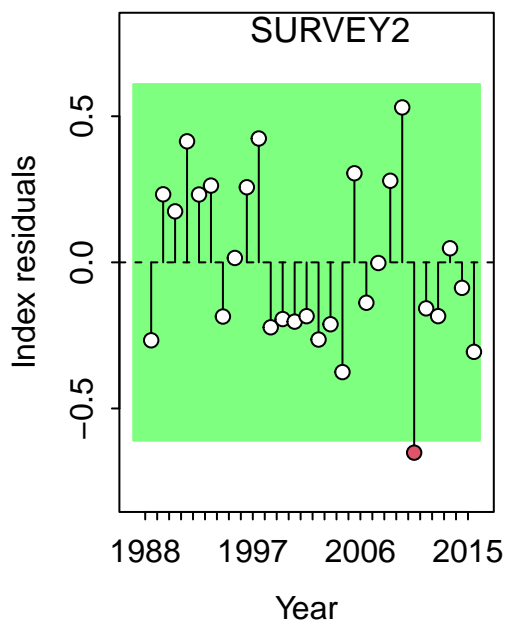
[1] "1 NOTE:  Max data length bin: 85  < max pop len bins: 94; so will accumulate larger pop
[2] "N warnings: 1"

```

Fit to Model

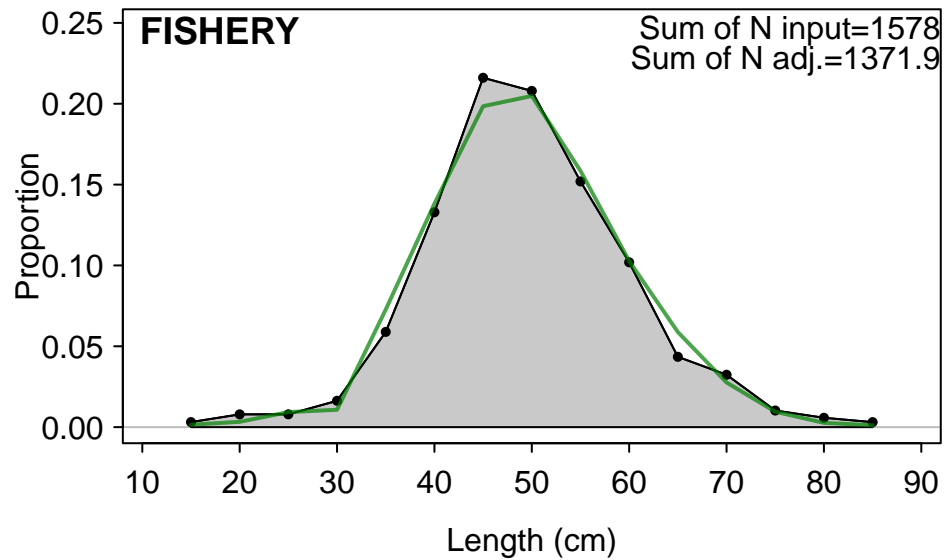
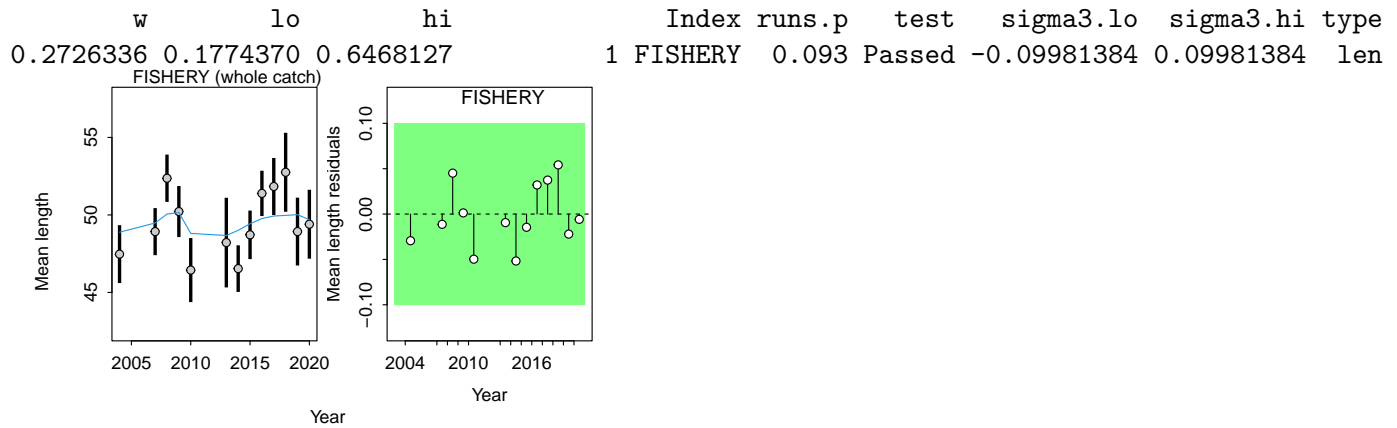
CPUE

Fleet	RMSE.perc	Nobs
SURVEY2	28.1	28
SURVEY3	13.5	6
Combined	26.1	34

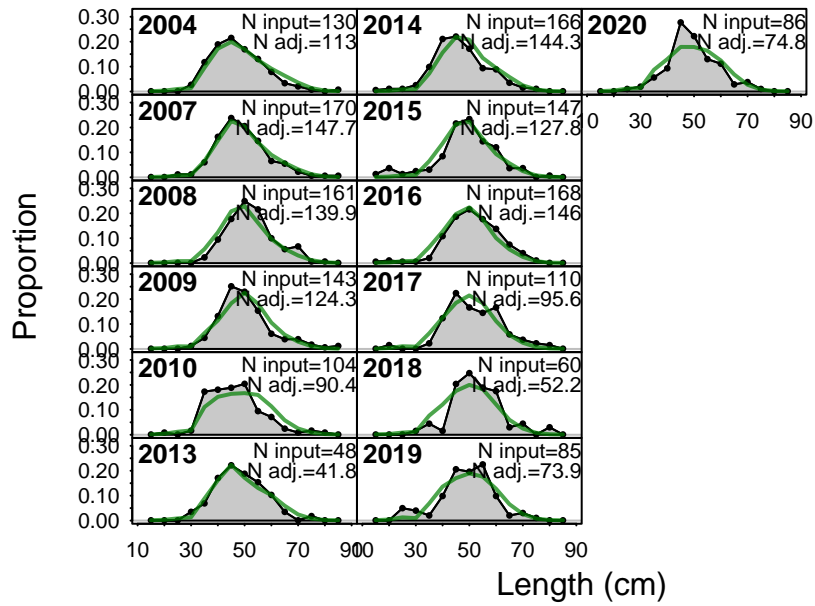


Length Comp

Fleet	RMSE.perc	Nobs
FISHERY	3.3	13
Combined	3.3	13

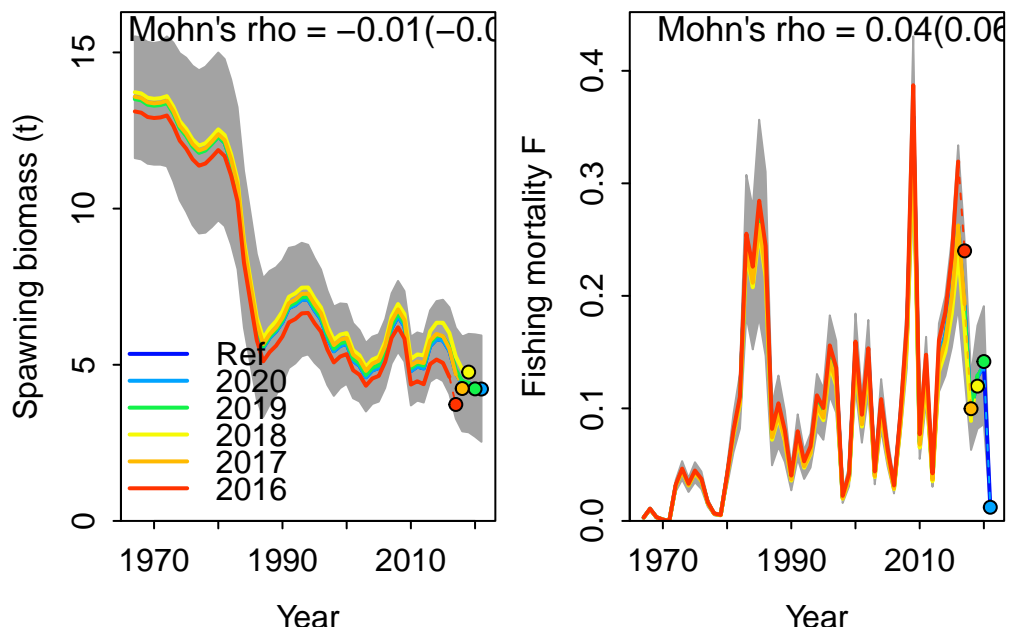


Retrospective and Hindcasting



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	0.002513162	0.002944937
2	F	2019	0.013908456	0.022827885
3	F	2018	-0.075482097	-0.062372812
4	F	2017	0.023153534	0.037016239
5	F	2016	0.220490344	0.274719146
6	F Combined		0.036916680	0.055027079

Hindcasting

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

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

MASE stats by Index:

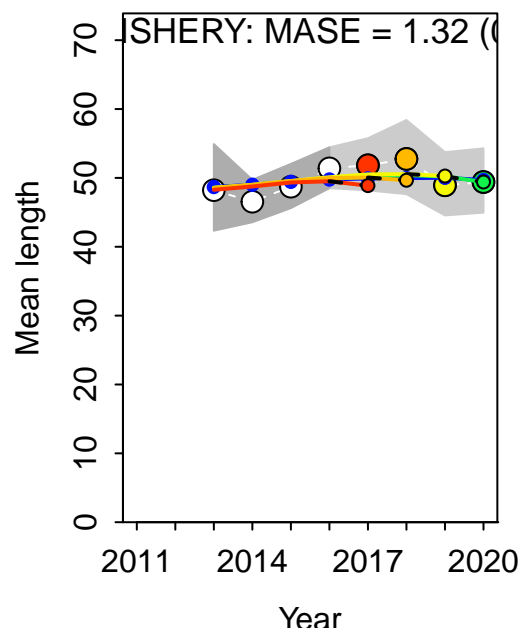
Plotting Hindcast Cross-Validation (one-step-ahead)

Computing MASE with only 4 of 5 prediction residuals for Index FISHERY

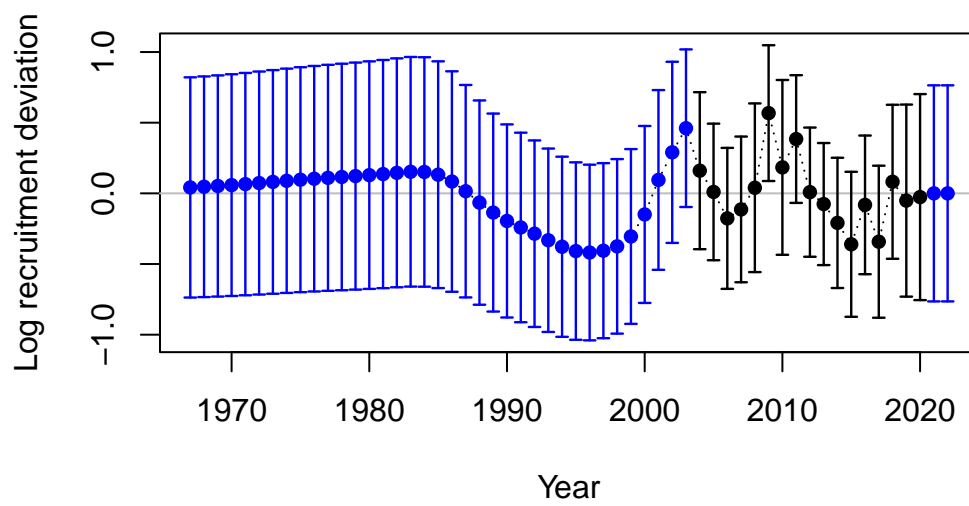
Warning: Unequal spacing of naive predictions residuals may influence the interpretation of

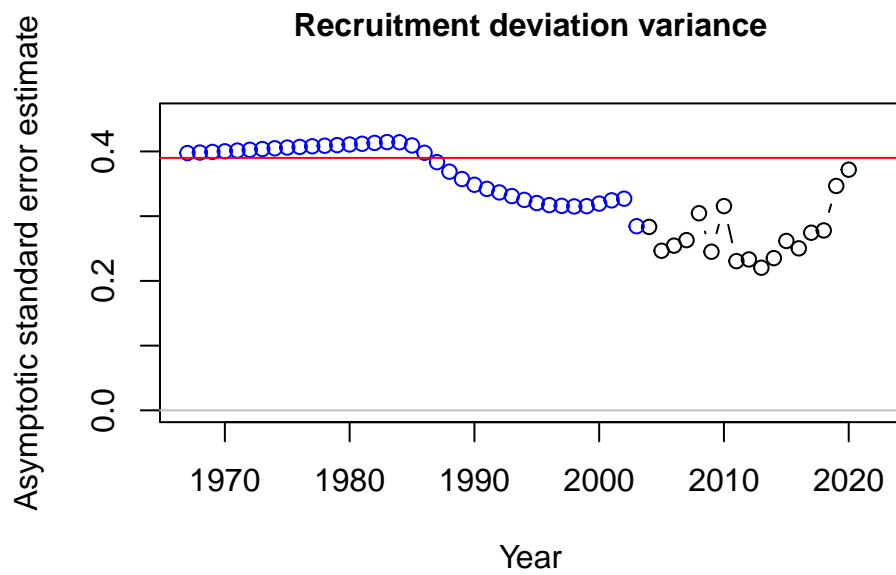
MASE stats by Index:

	Index	Season	MASE	MAE.PR	MAE.base	MASE.adj	n.eval
1	FISHERY	1	1.316815	0.03657869	0.02777815	0.3657869	4



Recruitment Deviations

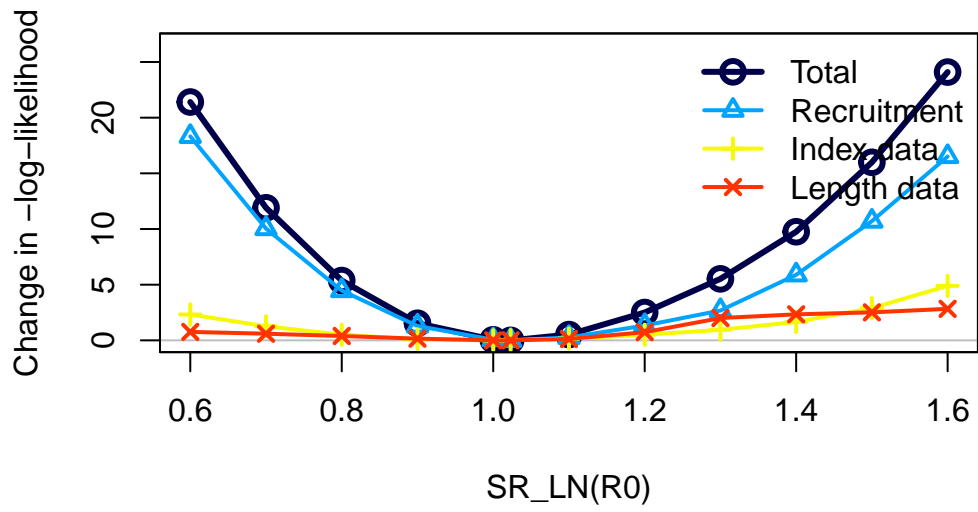




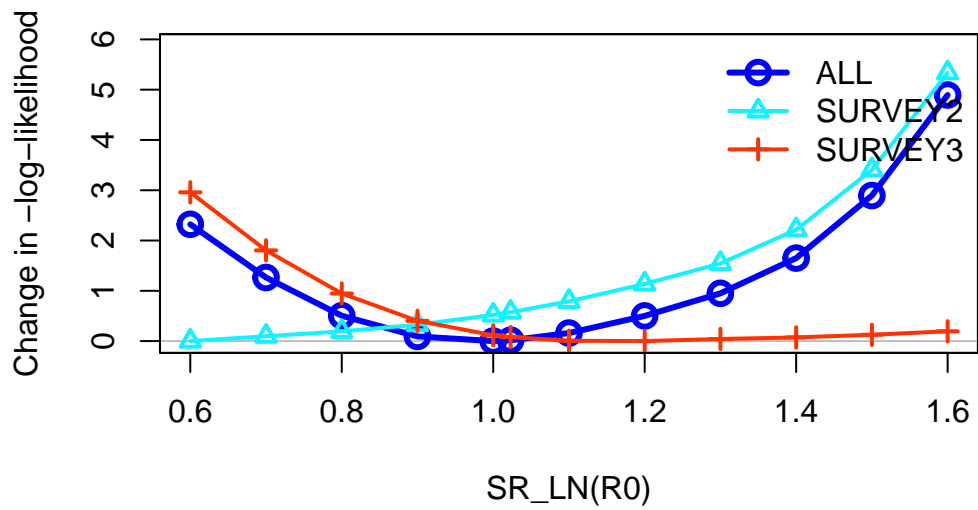
Likelihood Profile

[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	0.2031	TRUE	Index data
Length_comp	0.1174	TRUE	Length data
Recruitment	0.7602	TRUE	Recruitment
InitEQ_Regime	0.0000	FALSE	Initital equilibrium recruitment
Forecast_Recruitment	0.0000	FALSE	Forecast recruitment
Parm_priors	0.0059	FALSE	Priors
Parm_softbounds	0.0000	FALSE	Soft bounds
Parm_devs	0.0000	FALSE	Parameter deviations
Crash_Pen	0.0000	FALSE	Crash penalty

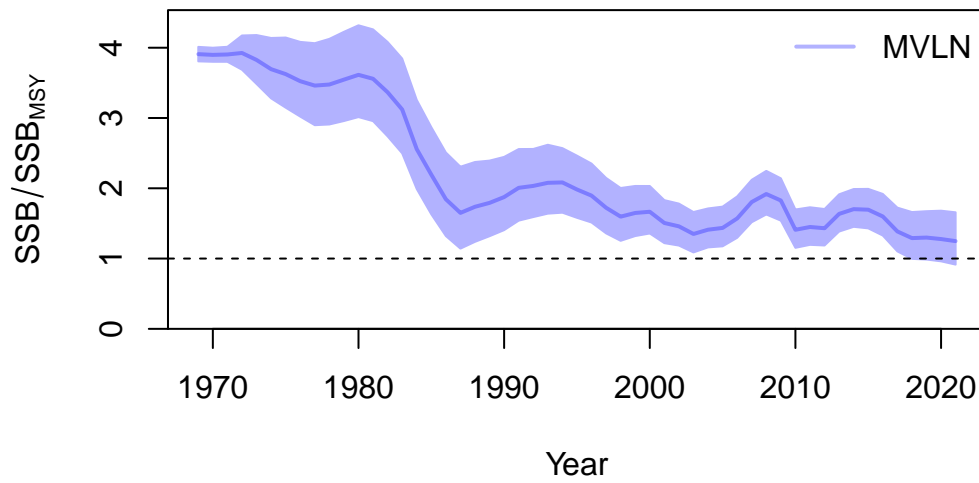
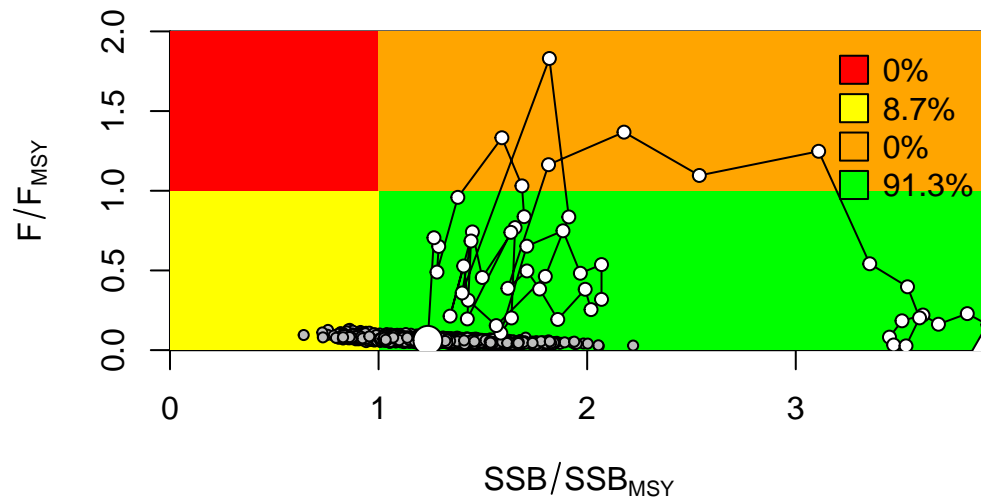


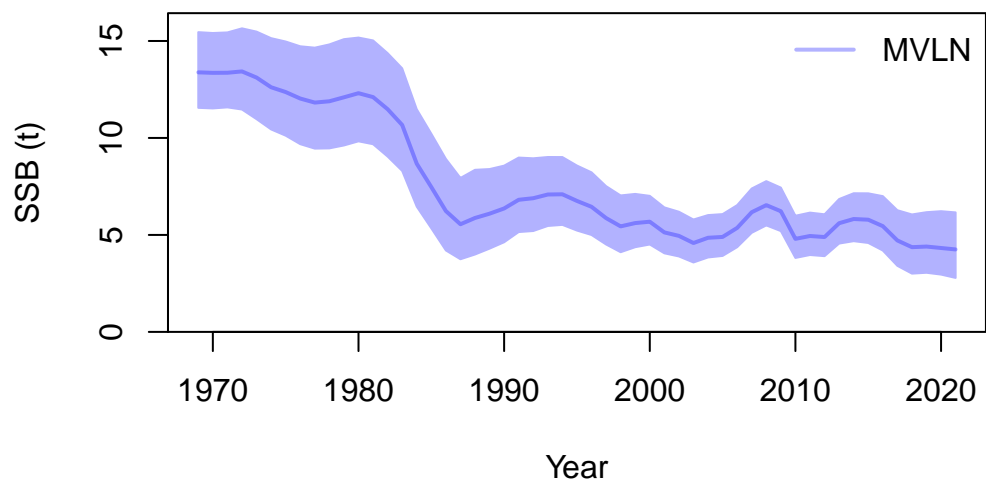
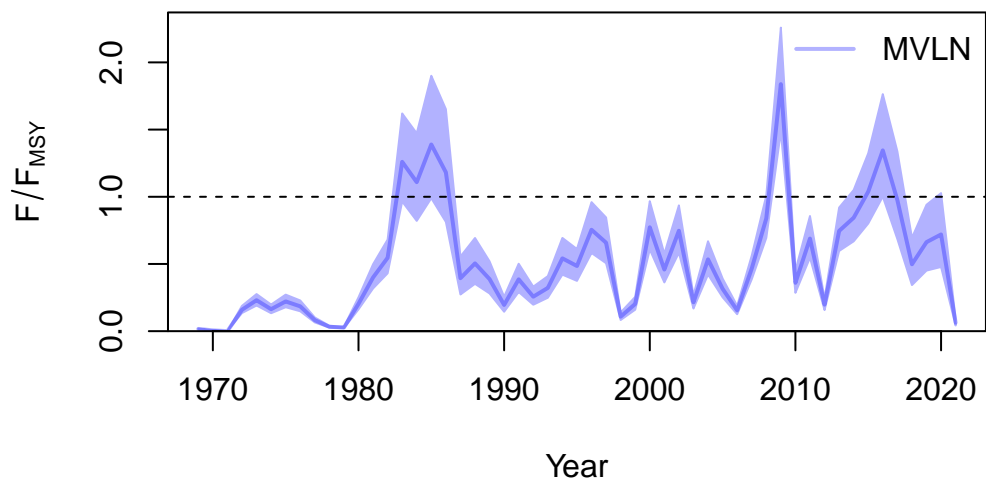
Changes in survey likelihood by fleet

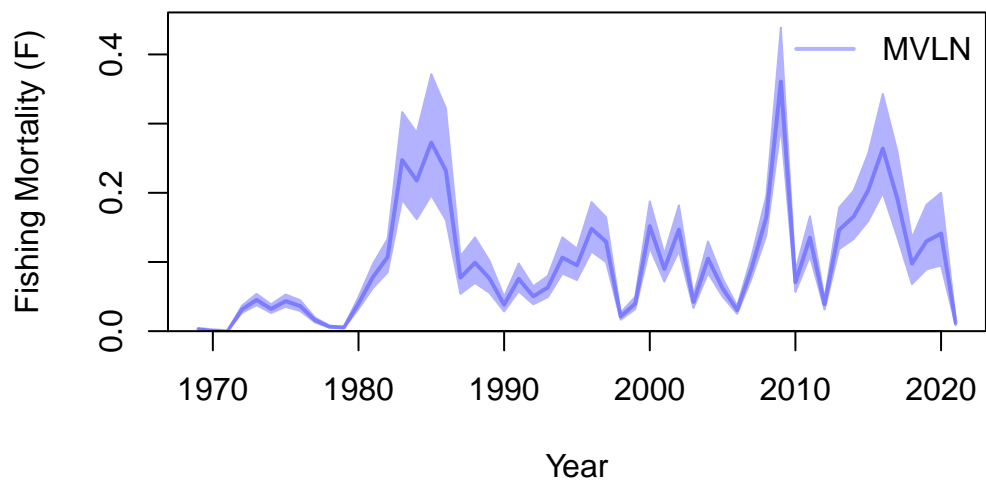


Management Quantities

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

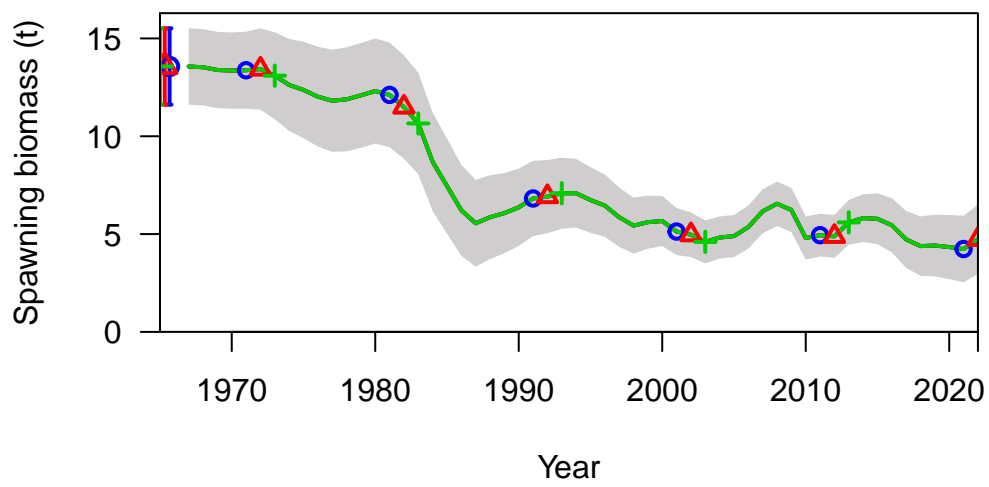
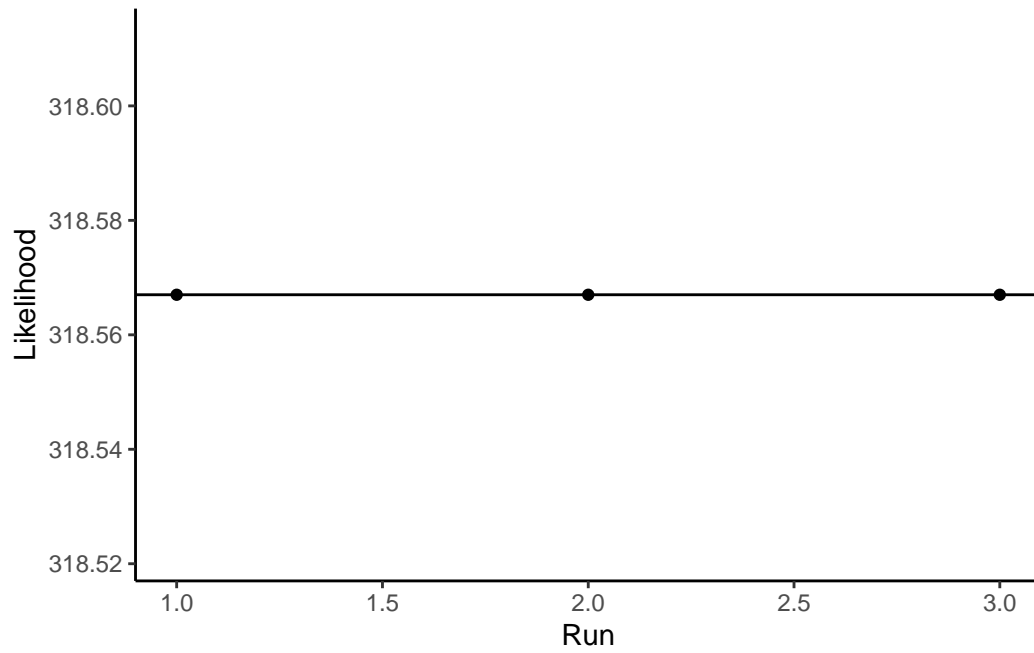


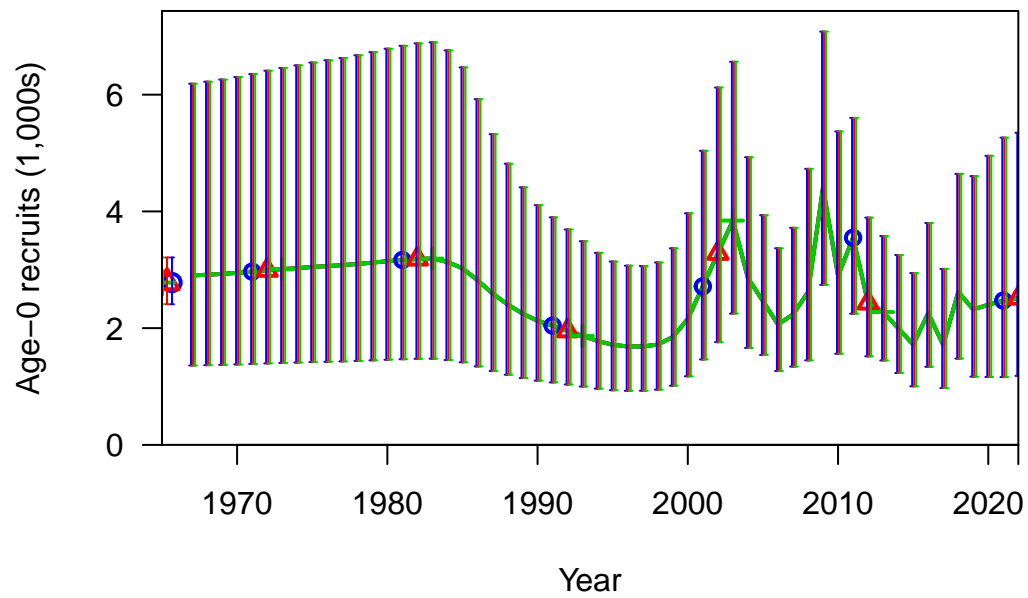
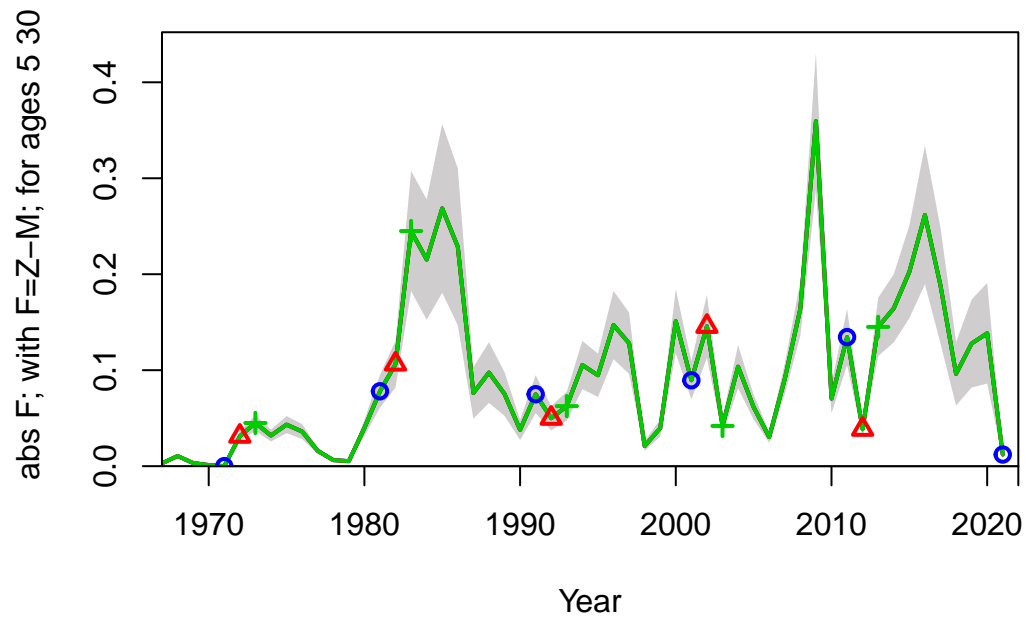




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Jitter





Selectivity and Maturity

