

American Samoa Model Checks

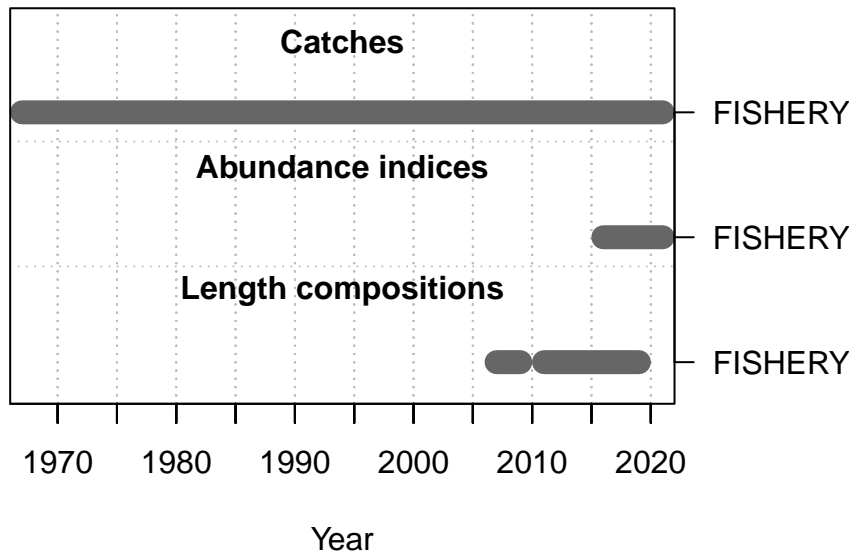
Marc Nadon and Meg Oshima

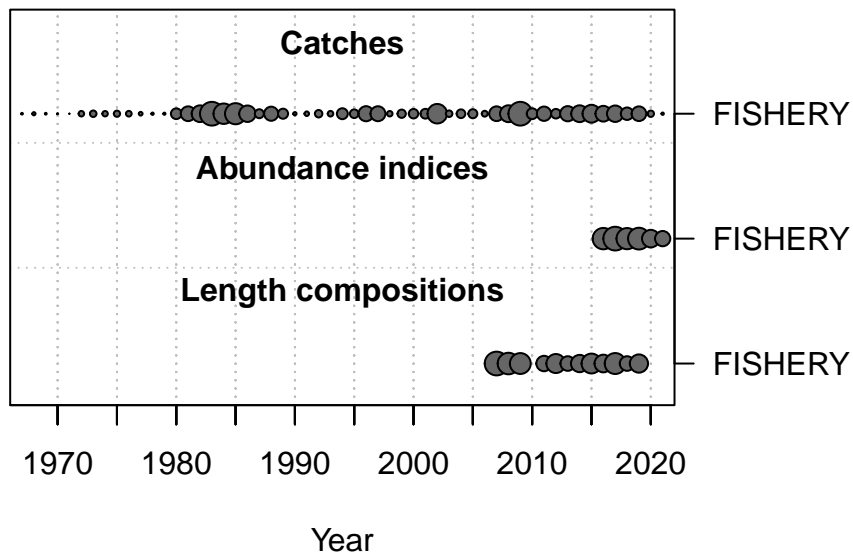
2023-01-05

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

Model Output

Input Data





Convergence Check

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Converged      MaxGrad
1      TRUE 3.37248e-05

```

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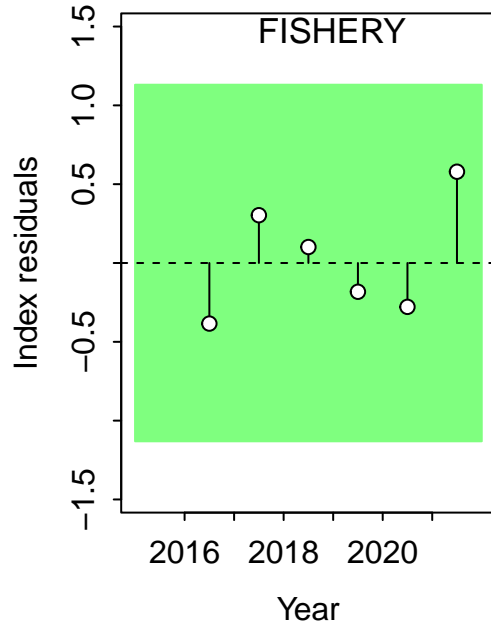
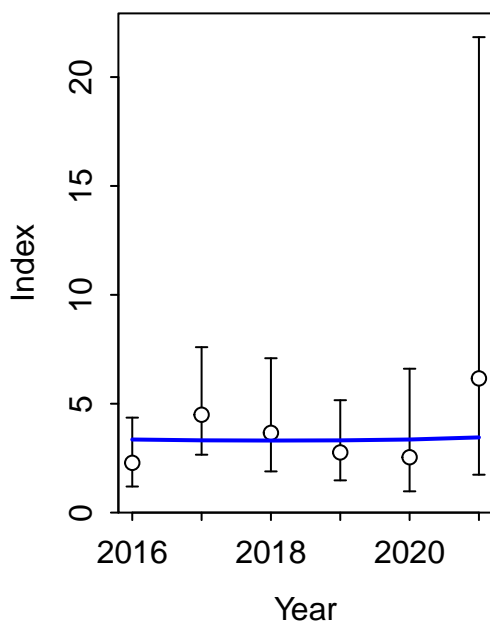
[1] "1 NOTE: Max data length bin: 90 < max pop len bins: 100; so will accumulate larger pop
[2] "N warnings: 1"

```

Fit to Model

CPUE

Fleet	RMSE.perc	Nobs
FISHERY	34.1	6
Combined	34.1	6

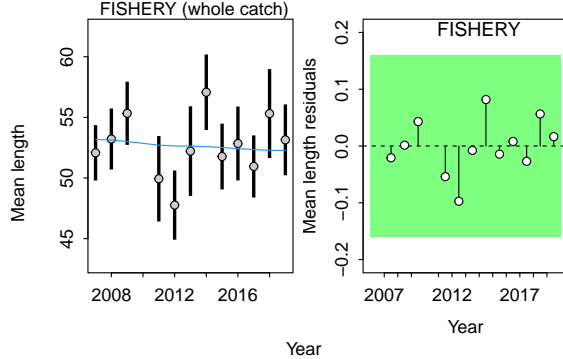


Length Comp

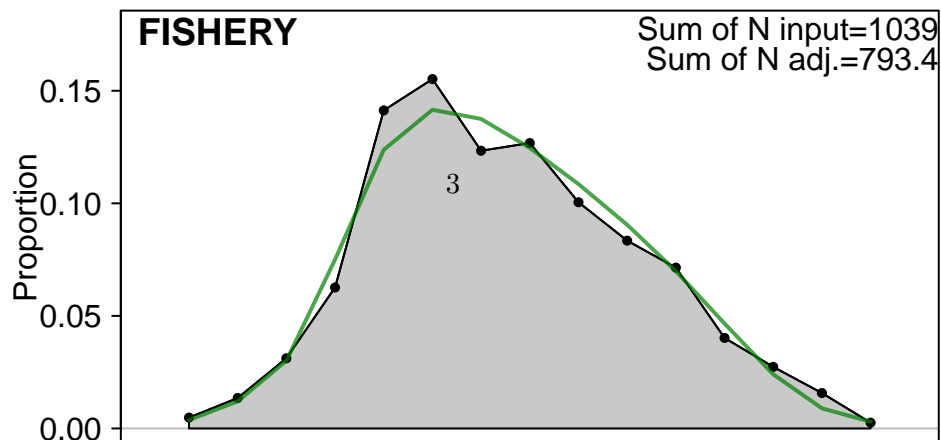
Fleet	RMSE.perc	Nobs
FISHERY	4.6	12
Combined	4.6	12

w lo hi
0.3514624 0.2066419 1.2413602

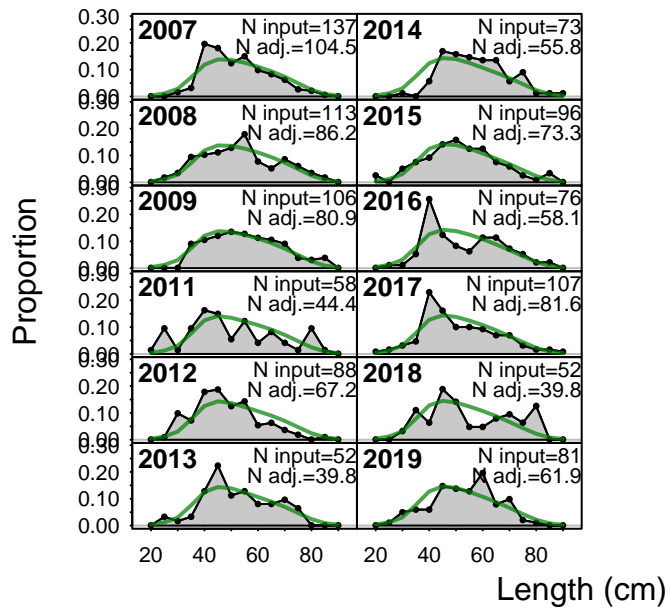
Index runs.p test sigma3.lo sigma3.hi type
1 FISHERY 0.728 Passed -0.159472 0.159472 len



Year

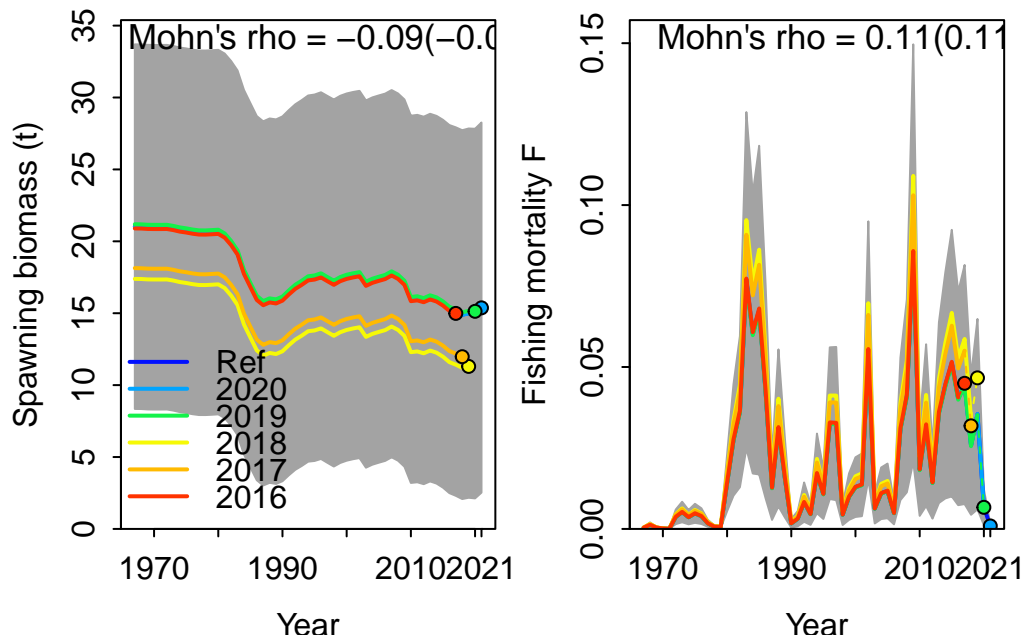


Sum of N input=1039
Sum of N adj.=793.4



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	0.001278598	0.001244554
2	F	2019	-0.009120813	-0.009002159
3	F	2018	0.316649793	0.316150582
4	F	2017	0.233860951	0.234938848
5	F	2016	0.008167127	0.008266260
6	F Combined		0.110167131	0.110319617

Hindcasting

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

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

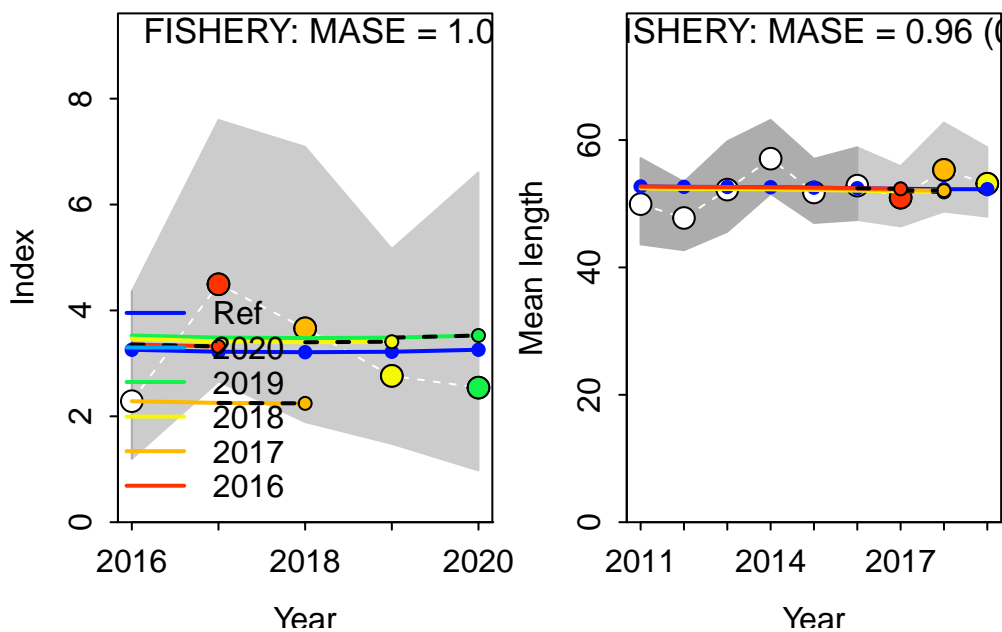
Warning: Unequal spacing of naive predictions residuals may influence the interpretation of

MASE stats by Index:

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

Computing MASE with only 3 of 5 prediction residuals for Index FISHERY

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



MASE stats by Index:

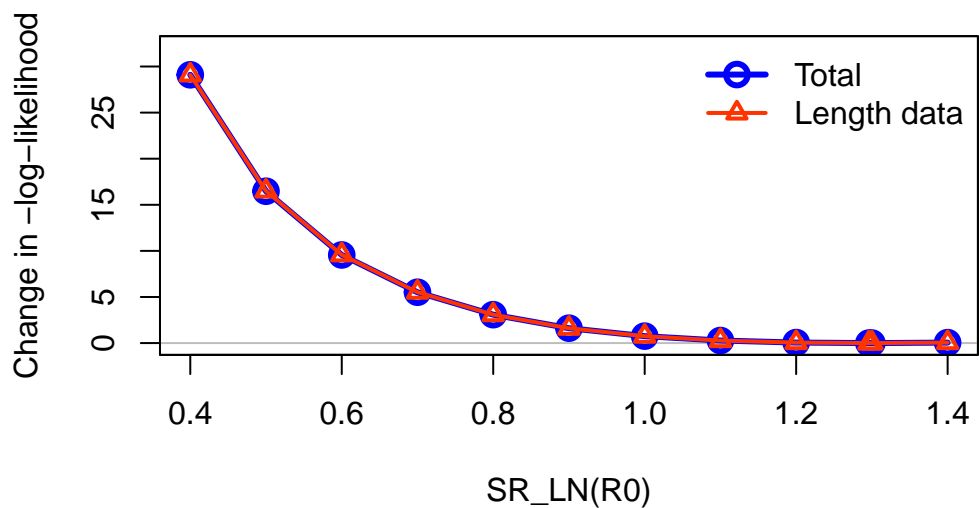
	Index	Season	MASE	MAE.PR	MAE.base	MASE.adj	n.eval
1	FISHERY	1	0.9582459	0.0506396	0.05284614	0.506396	3

Recruitment Deviations

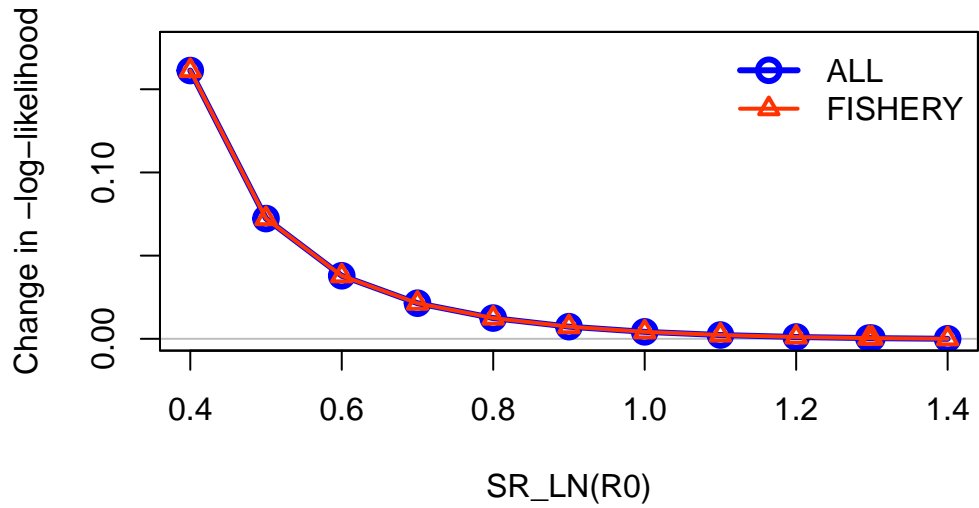
Likelihood Profile

[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	0.0055	FALSE		Index data
Length_comp	0.9995	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	0.0052	FALSE		Priors

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

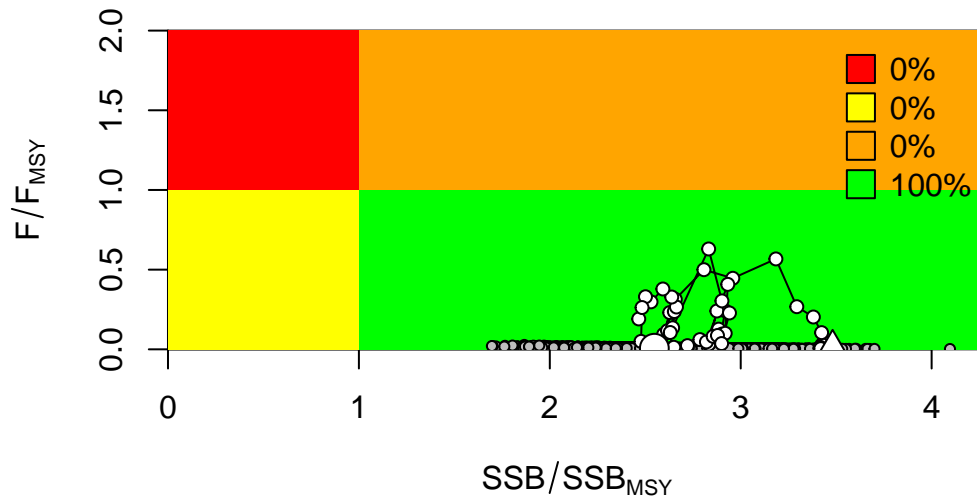


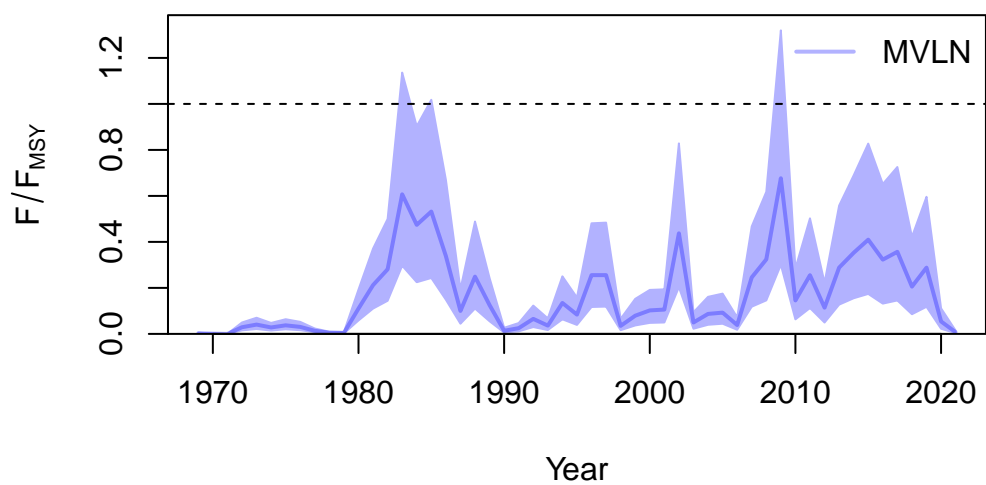
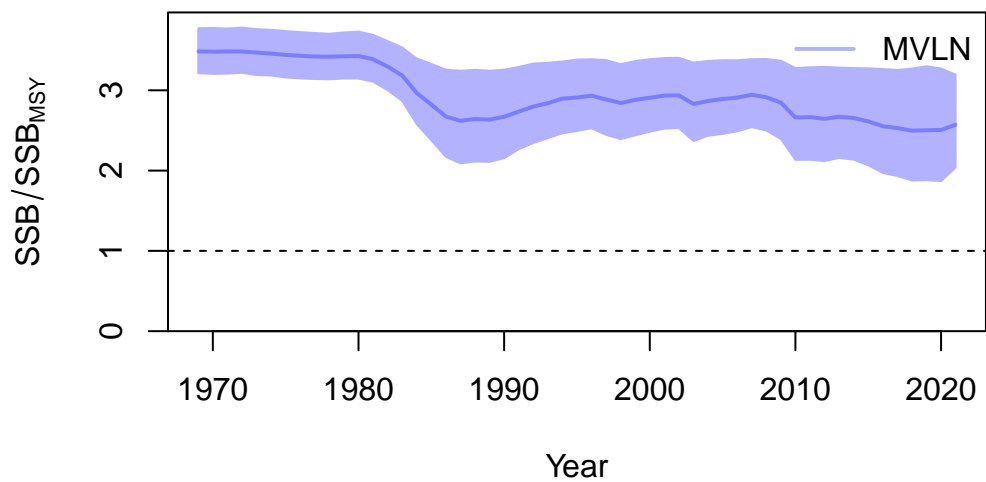
Changes in survey likelihood by fleet

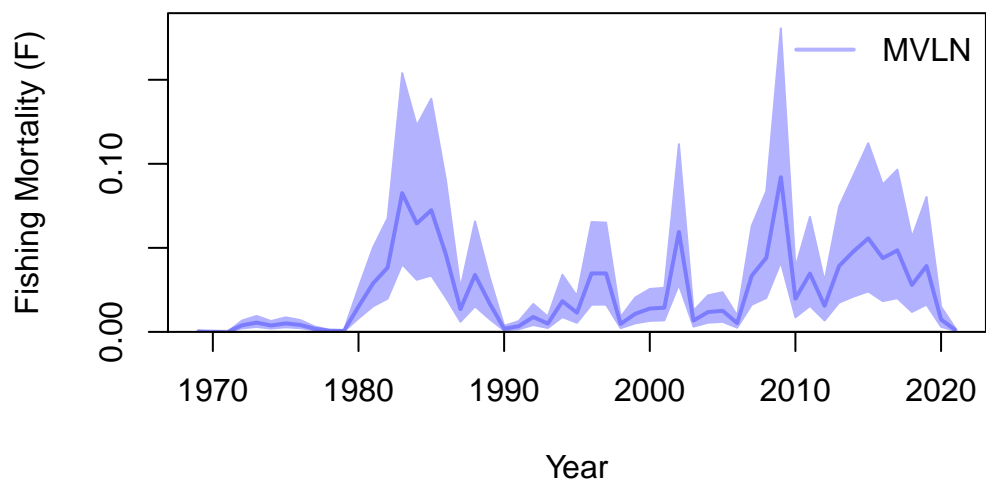
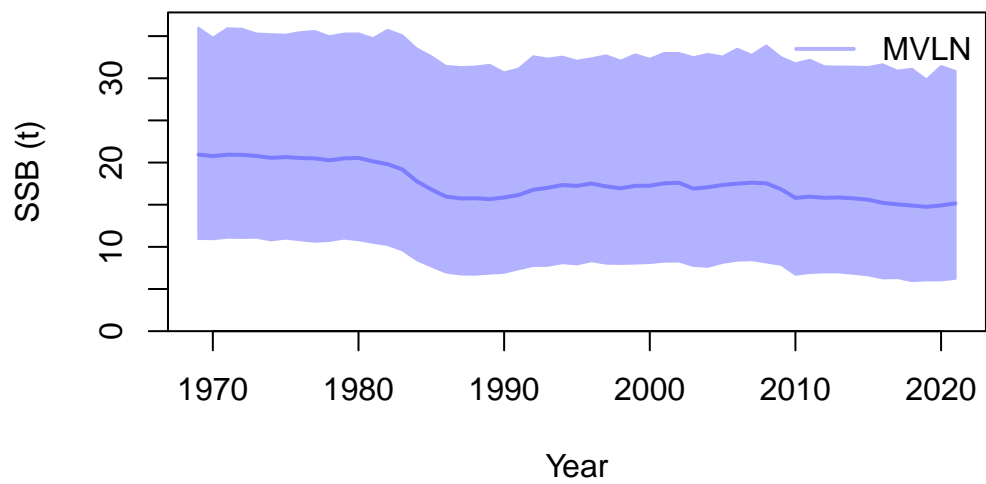


Management Quantities

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

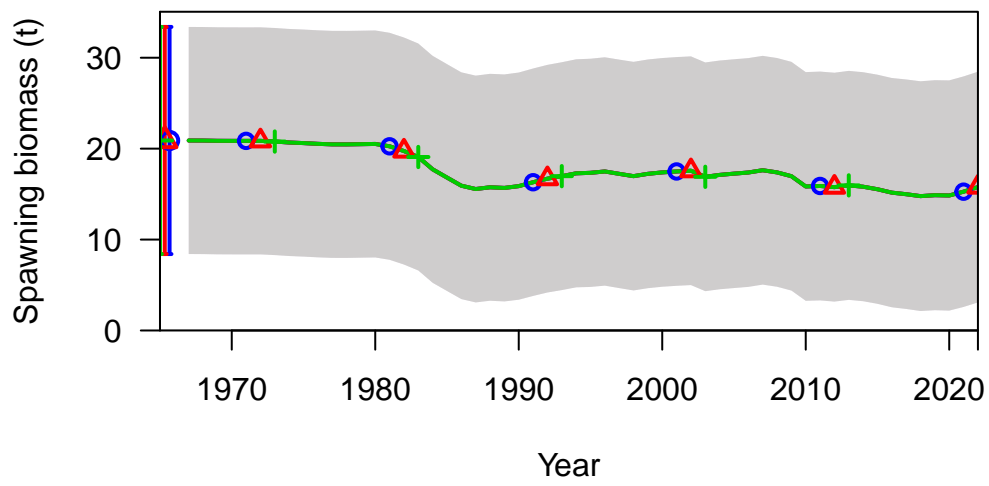
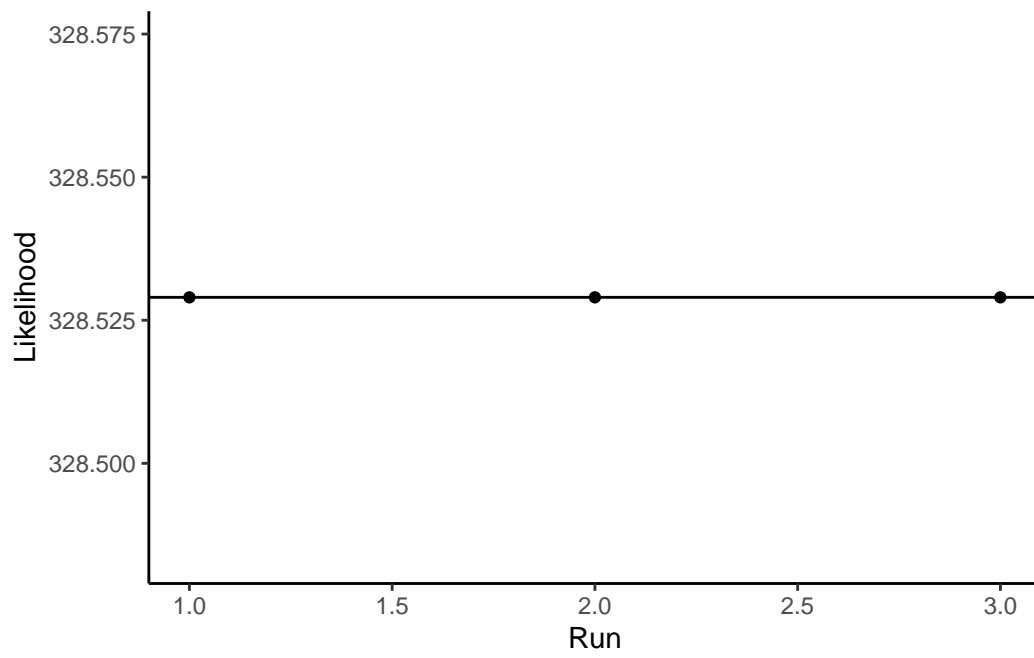


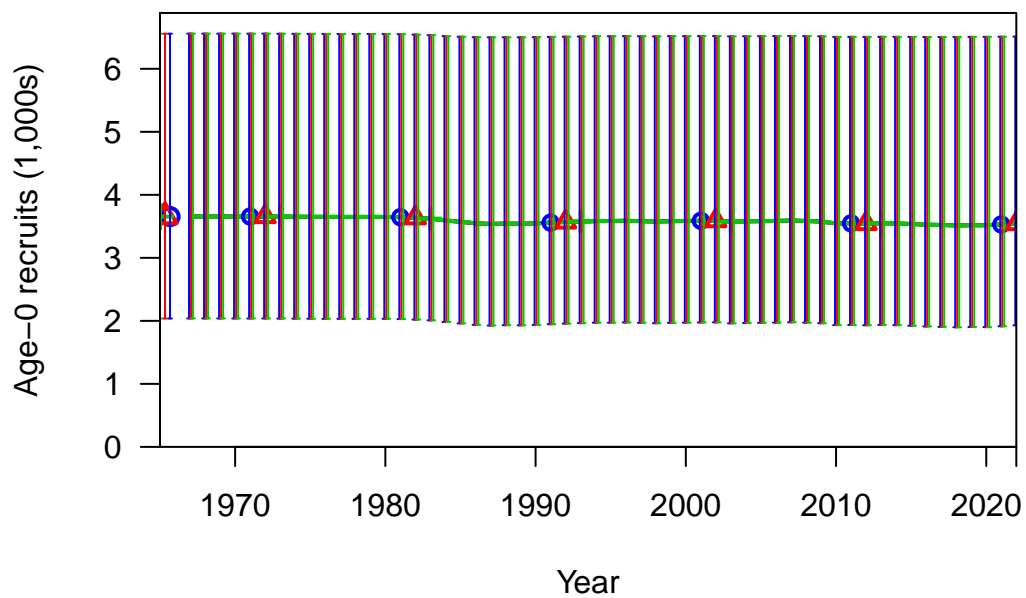
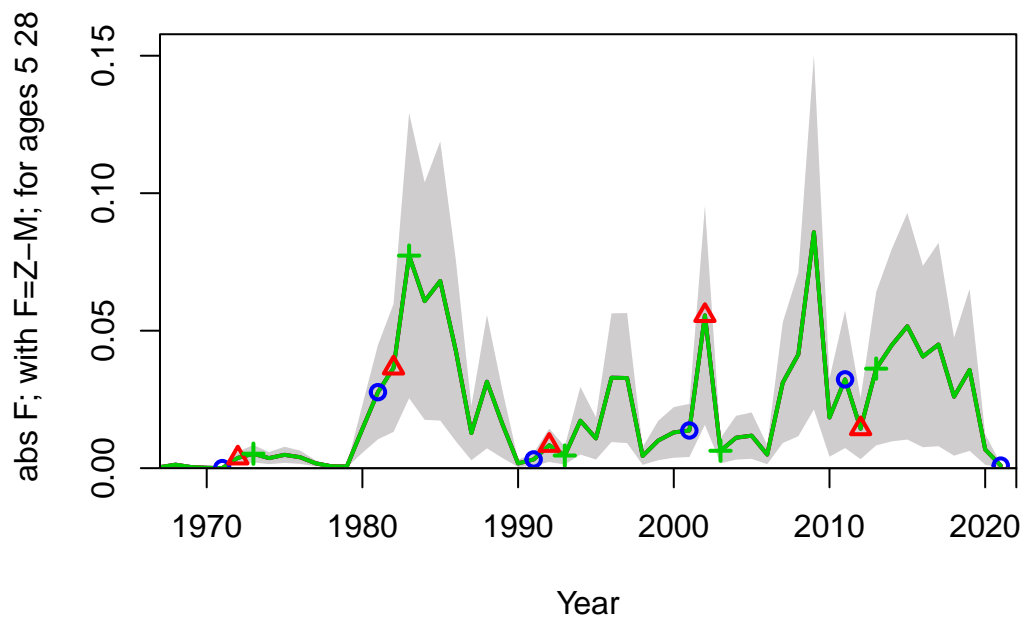




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Jitter





Selectivity and Maturity

