American Samoa Model Checks

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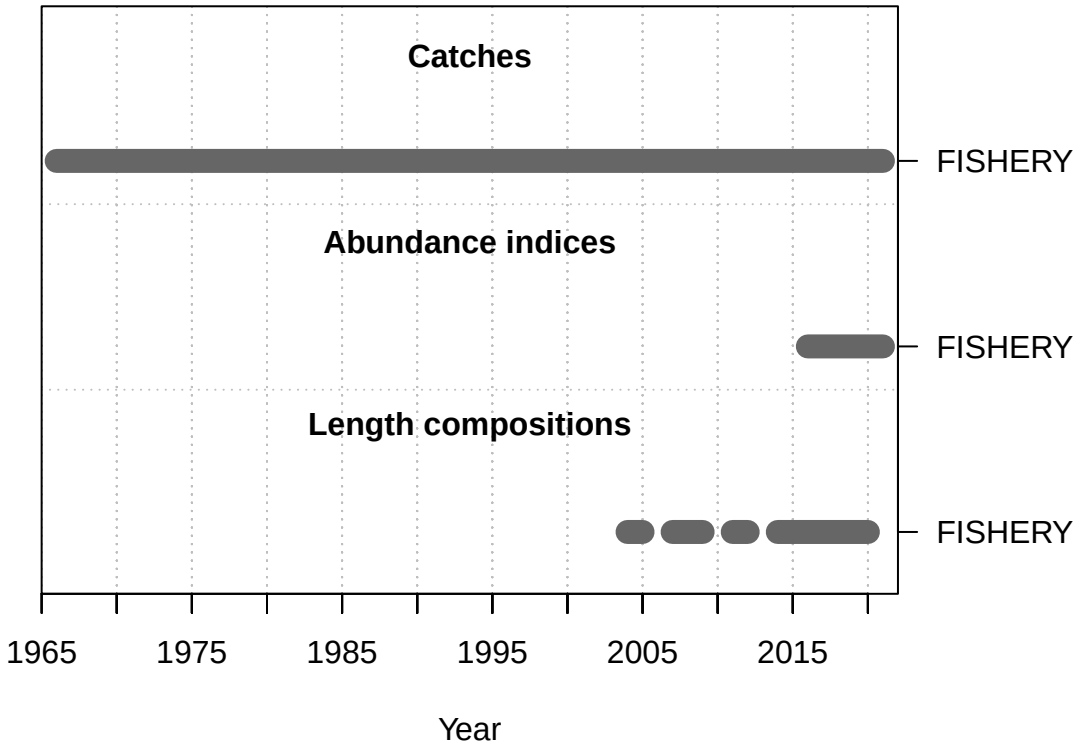
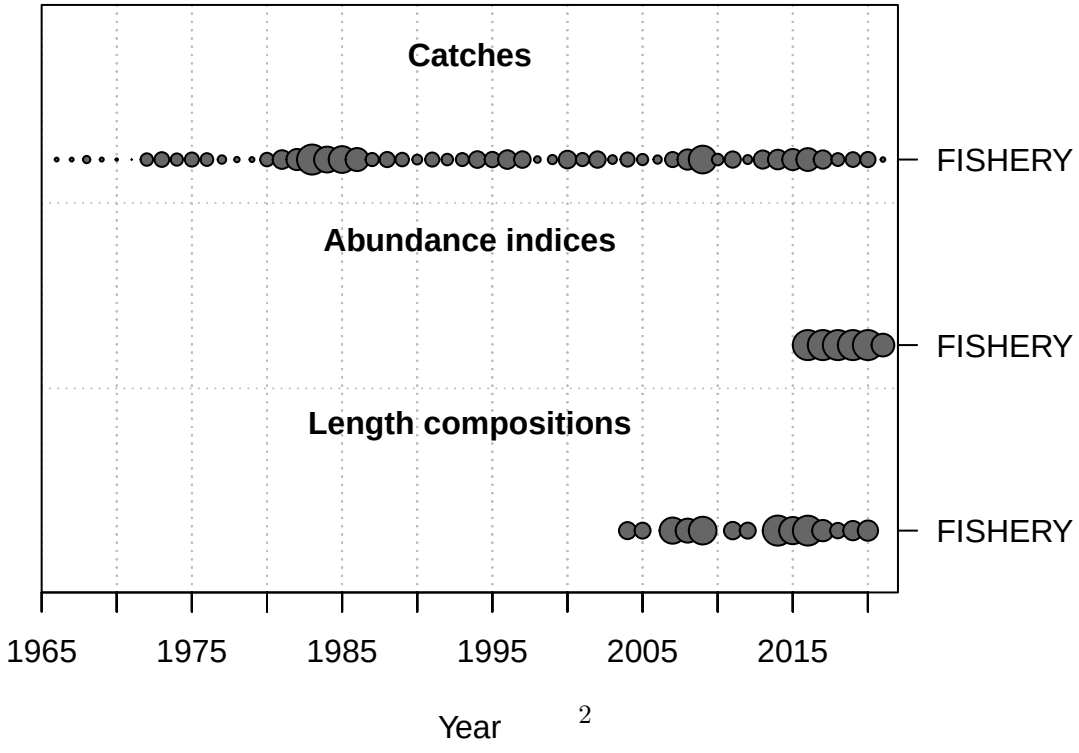
This is a summary report for the APVI base model run.

Model Output

Input Data





Convergence Check

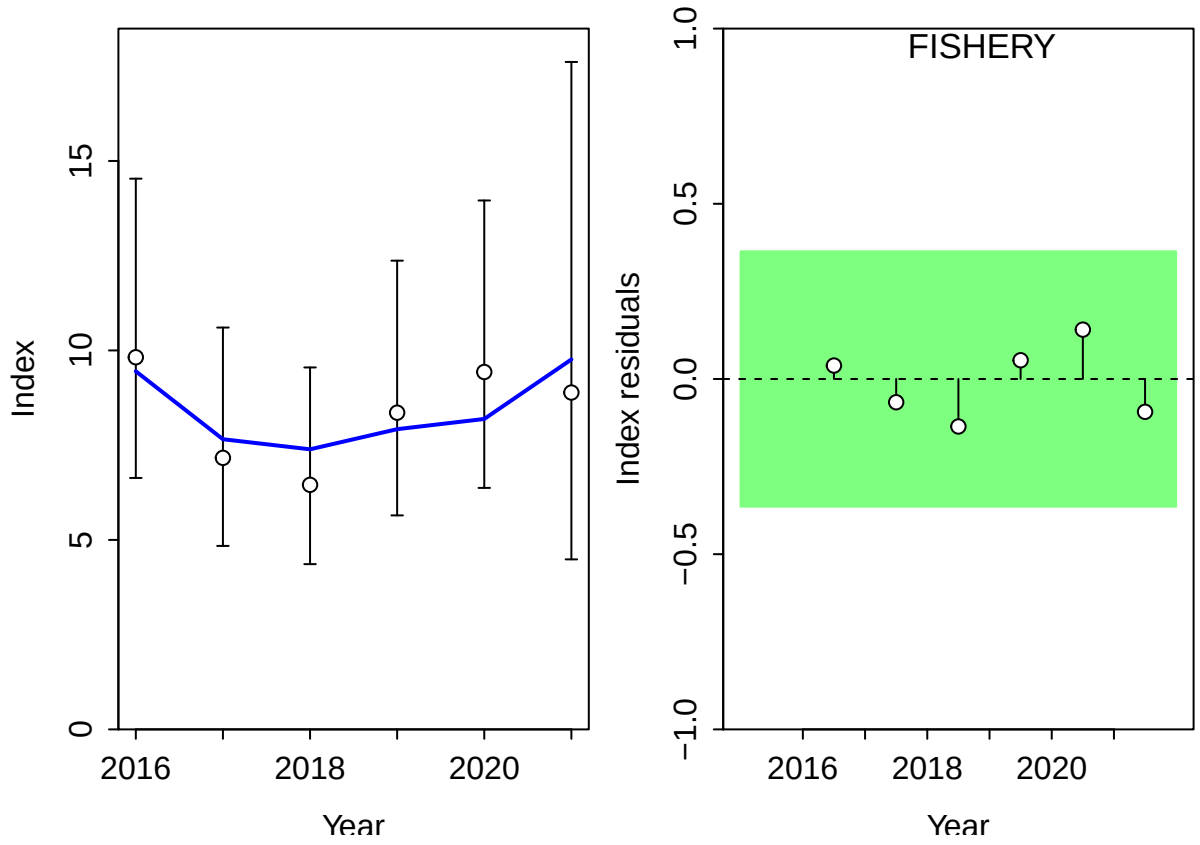
```
##   Converged      MaxGrad
## 1      TRUE 0.0000231001
```

```
## [1] "1 NOTE:  Max data length bin: 85  < max pop len bins: 94; so will accumulate larger pop len bins
## [2] "2 Minimum pop size bin:_1; is > L at Amin for sex: 1; Gpat: 1; L= 0"
## [3] "3 warning: poor convergence in Fmsy, final dy/dy2= -0.00599912"
## [4] " N parameters are on or within 1% of min-max bound: 1; check results, variance may be suspect"
## [5] "N warnings: 3"
```

Fit to Model

CPUE

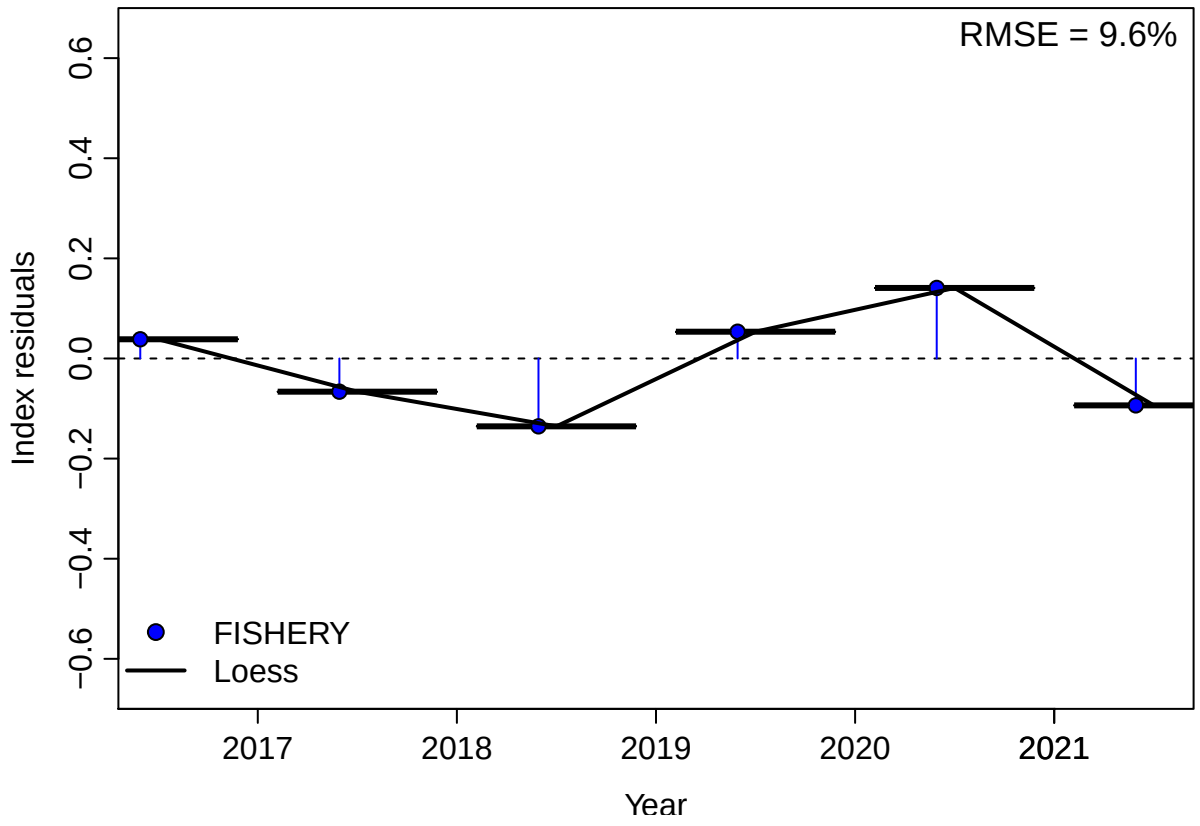
```
##
##  Running Runs Test Diagnosics for Index
## Plotting Residual Runs Tests
```




```
##
## Runs Test stats by Index:
## Plotting JABBA residual plot
```

```
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric = parametric, : Chernobyl! trL>n 6
```

```
## Warning in simpleLoess(y, x, w, span, degree = degree, parametric = parametric, : Chernobyl! trL>n 6

## Warning in sqrt(sum.squares/one.delta): NaNs produced
```



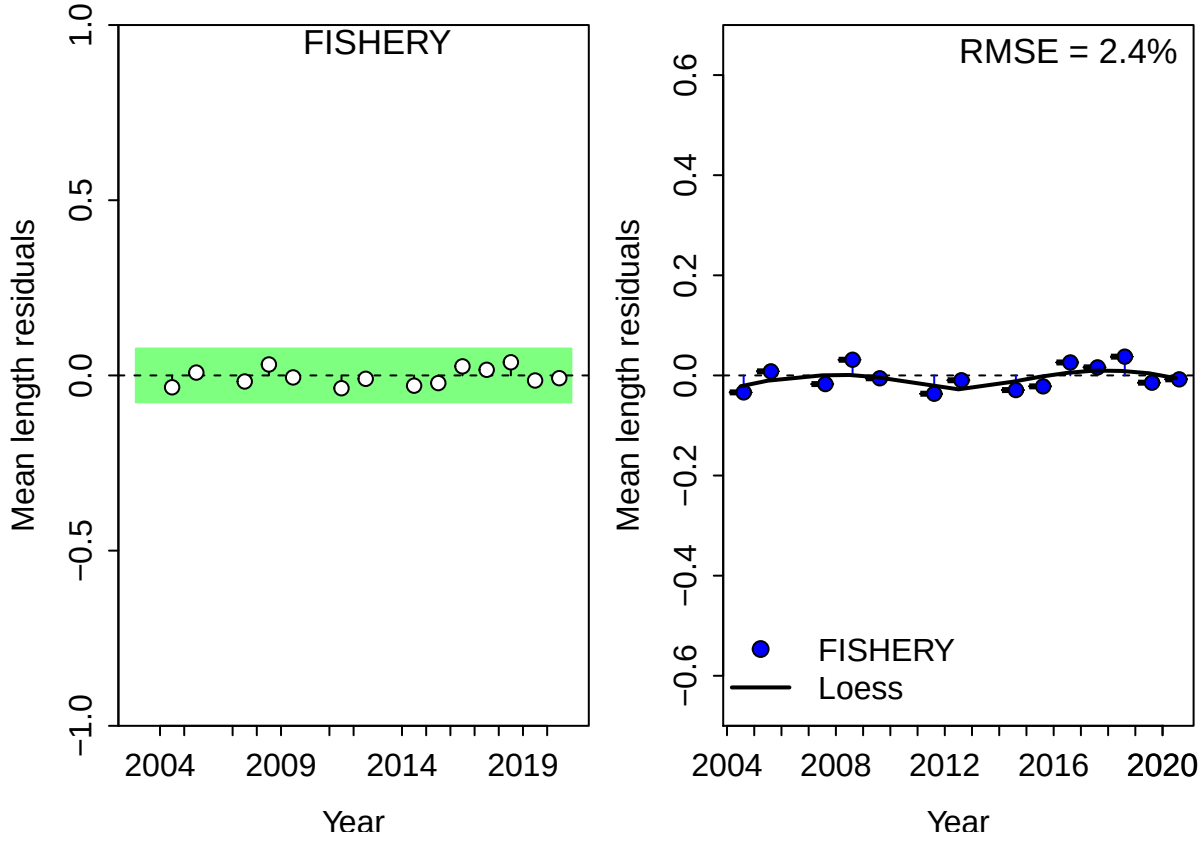

```
##
## RMSE stats by Index:
```

Length Comp

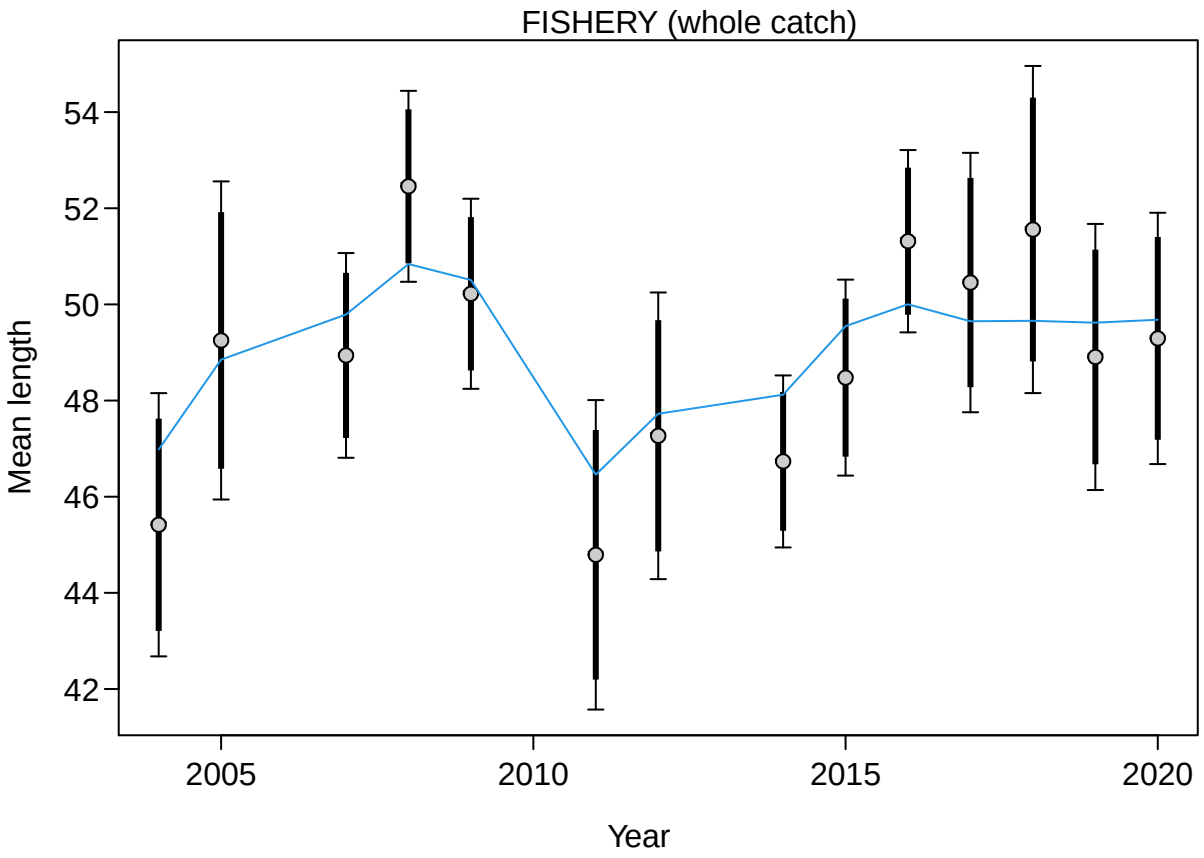
#Factor	Fleet	New_Var_adj	Type	Name
4	1	0.650604	len	FISHERY

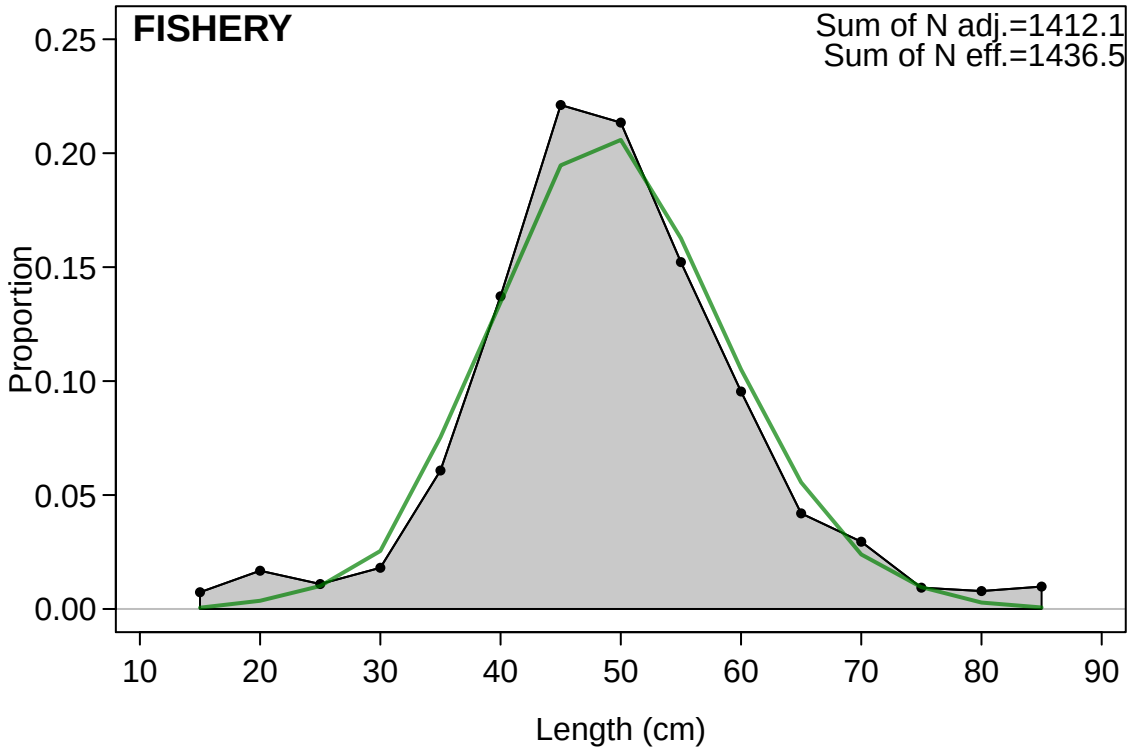
```
##
##  Running Runs Test Diagnosics for Mean length
## Plotting Residual Runs Tests

##
## Runs Test stats by Mean length:

##     Index runs.p   test   sigma3.lo  sigma3.hi type
## 1 FISHERY  0.397 Passed -0.07680205 0.07680205  len
```

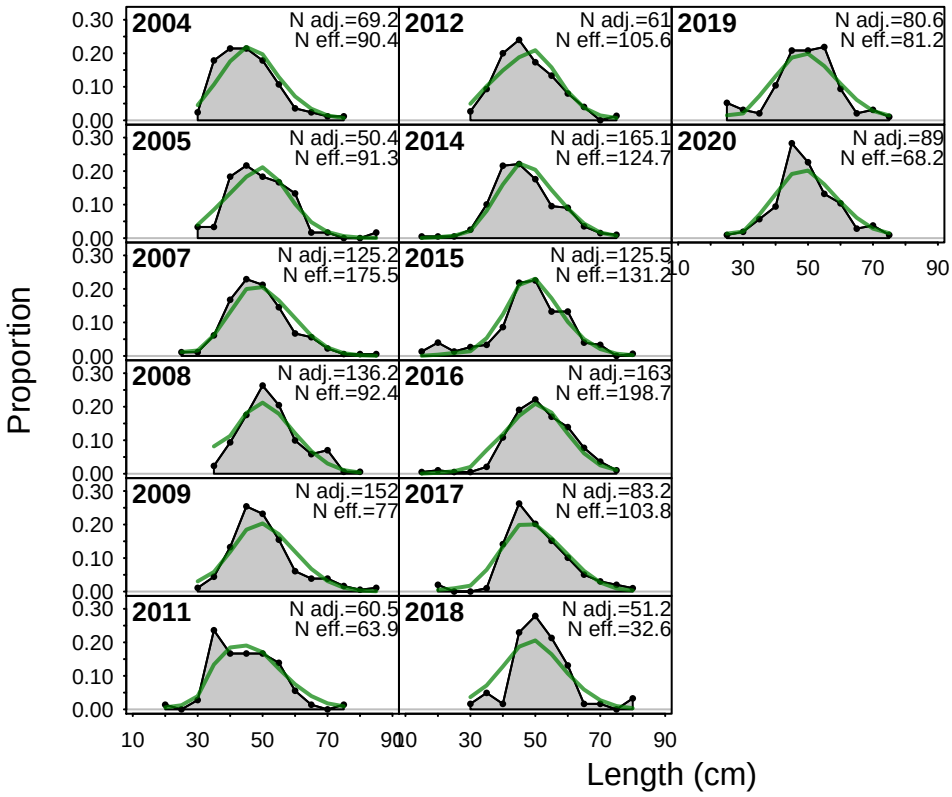
```
## Plotting JABBA residual plot
```




```
##
## RMSE stats by Index:

##    indices RMSE.perc nobs
## 1  FISHERY       2.4   14
## 2 Combined       2.4   14
```


FISHERY (whole catch)
Mean length
54
52
50
48
46
44
42
2005
2010
2015
2020
Year


FISHERY
Sum of N adj.=1412.1
Sum of N eff.=1436.5
Proportion
0.25
0.20
0.15
0.10
0.05
0.00
10
20
30
40
50
60
70
80
90
Length (cm)



Retrospective and Hindcasting

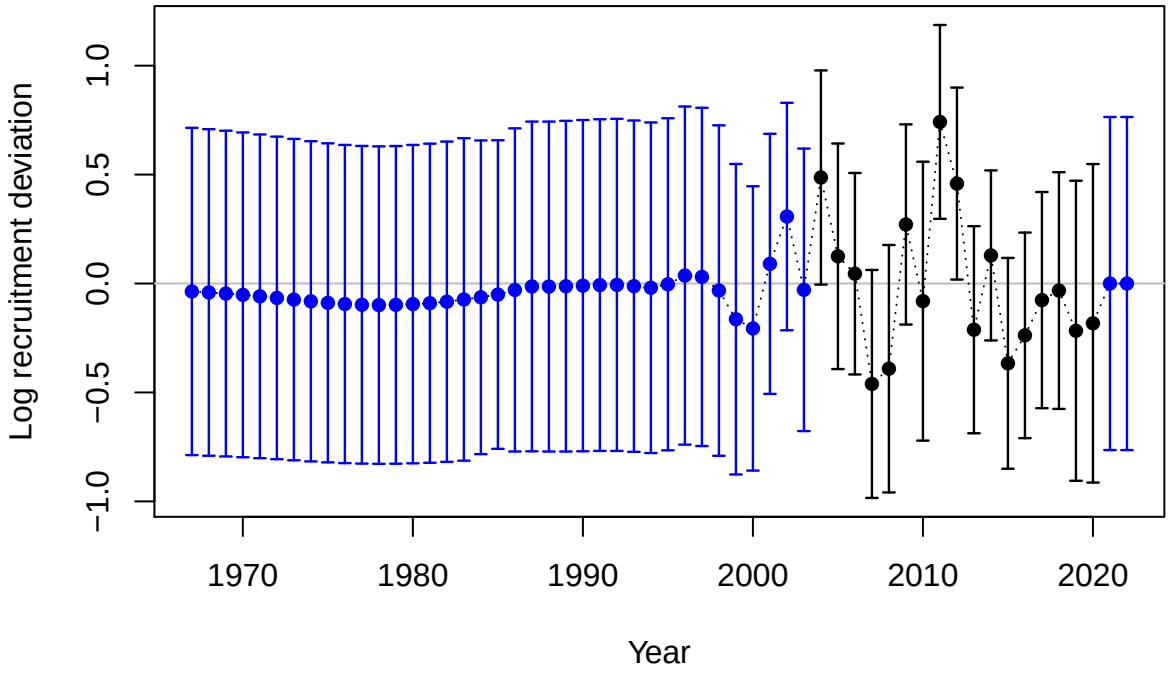
Retrospective

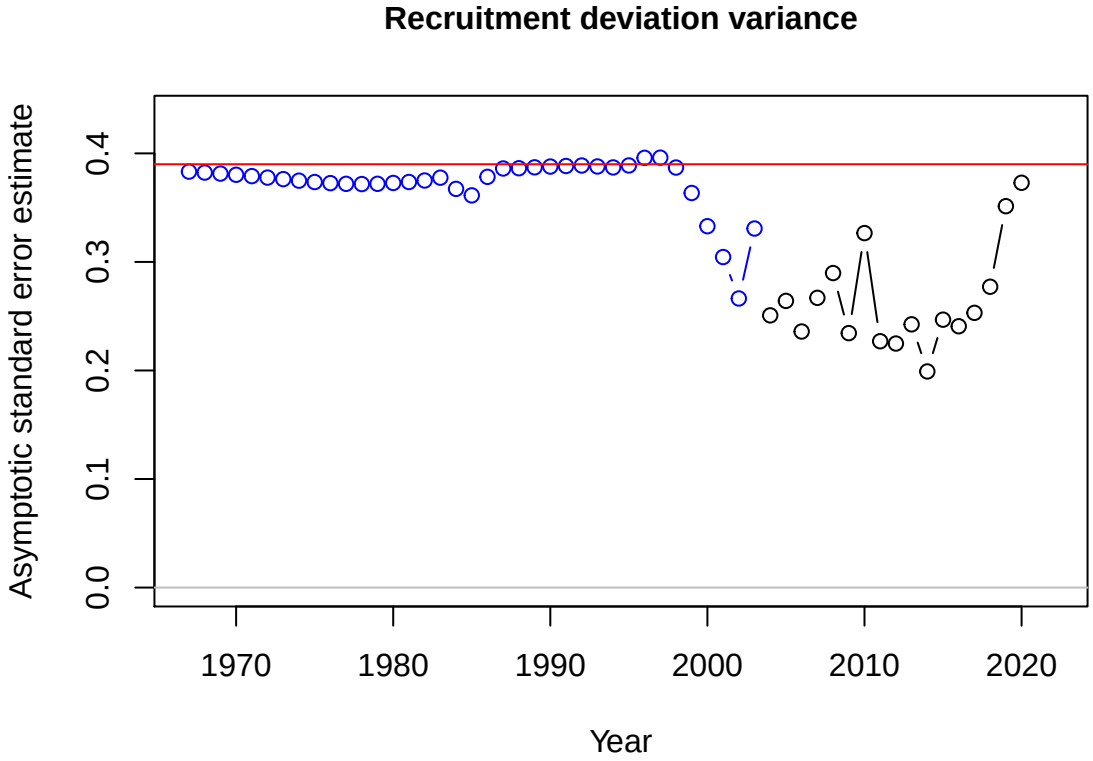
```
## [1] "No retrospective runs were found"
```

Hindcasting

```
## [1] "No information for hindcast was found"
```

Recruitment Deviations





Likelihood Profile

```
## [1] "SR_LN"
```

```
## Parameter matching profile.string=SR_LN: SR_LN(R0)
```

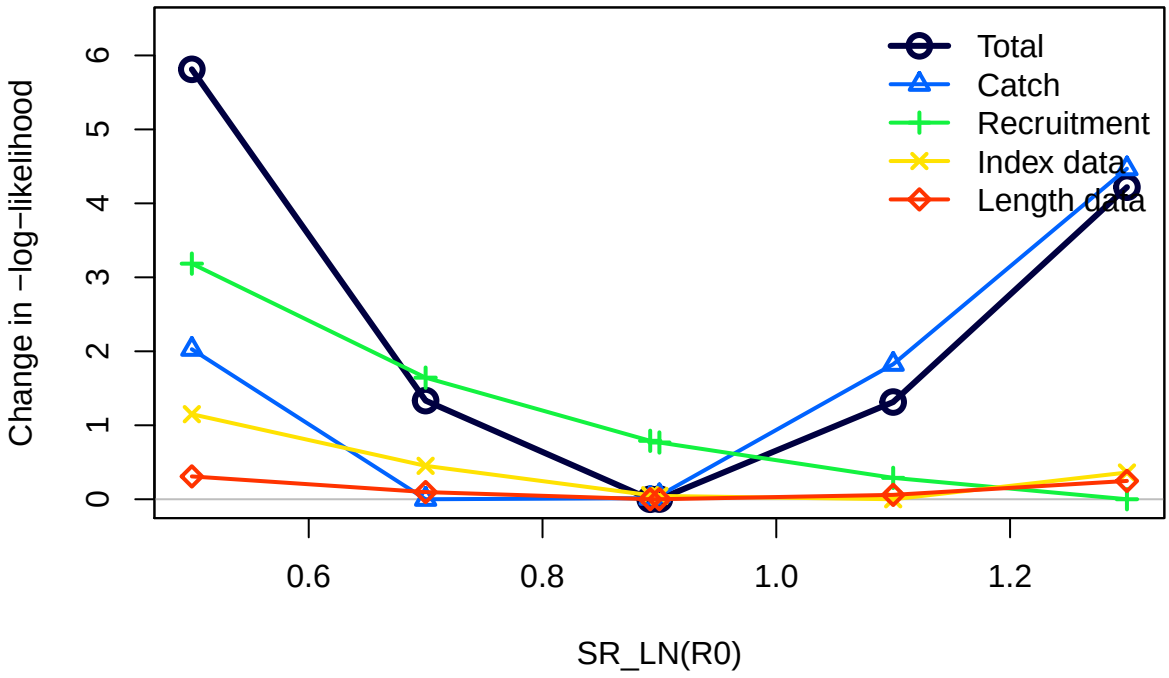
```
## Parameter values (after subsetting based on input 'models'): 0.5, 0.7, 0.9, 1.1, 1.3, 0.892133
```

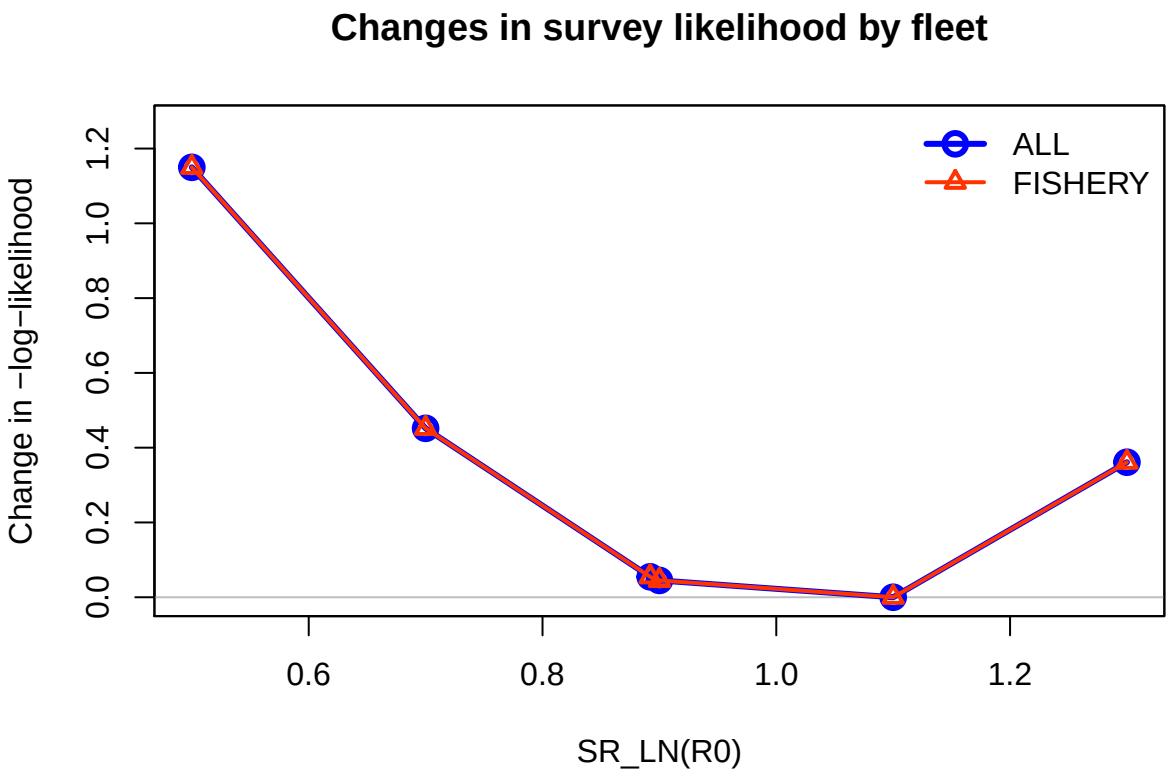
```
##
## Likelihood components showing max change as fraction of total change.
## To change which components are included, change input 'minfraction'.
```

```
##                       frac_change include                            label
## TOTAL                      1.0000    TRUE                            Total
## Catch                      0.7690    TRUE                            Catch
## Equil_catch                0.0000   FALSE                Equilibrium catch
## Survey                     0.1978    TRUE                       Index data
## Length_comp                0.0531    TRUE                      Length data
## Recruitment                0.5480    TRUE                      Recruitment
## InitEQ_Regime              0.0000   FALSE Initital equilibrium recruitment
## Forecast_Recruitment       0.0000   FALSE             Forecast recruitment
## Parm_priors                0.0000   FALSE                           Priors
## Parm_softbounds            0.0000   FALSE                      Soft bounds
## Parm_devs                  0.0000   FALSE             Parameter deviations
## Crash_Pen                  0.0000   FALSE                    Crash penalty
```

```
## Parameter matching profile.string = 'SR_LN': 'SR_LN(R0)
## Parameter values (after subsetting based on input 'models'): 0.5, 0.7, 0.9, 1.1, 1.3, 0.892133,
```

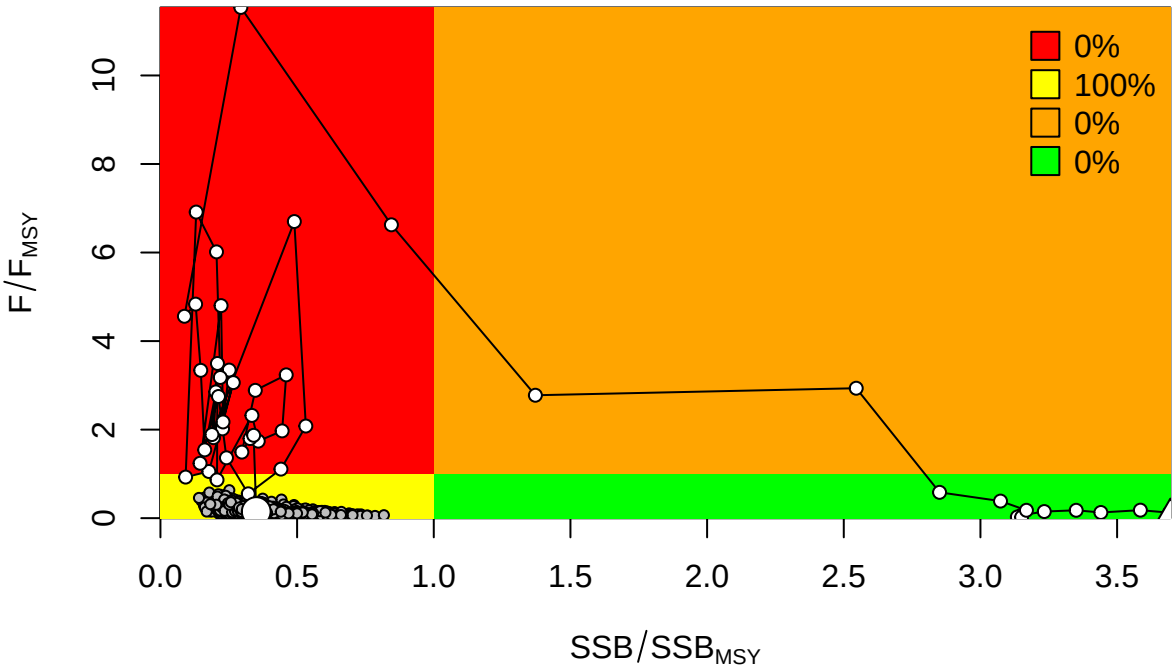
```
## Fleet-specific likelihoods showing max change as fraction of total change.
## To change which components are included, change input 'minfraction'.
##                         frac_change include
## prof.table....c.1.3..           1    TRUE
```


Change in −log−likelihood
0
1
2
3
4
5
6
0.6
0.8
1.0
1.2
SR_LN(R0)
Total
Catch
Recruitment
Index data
Length data

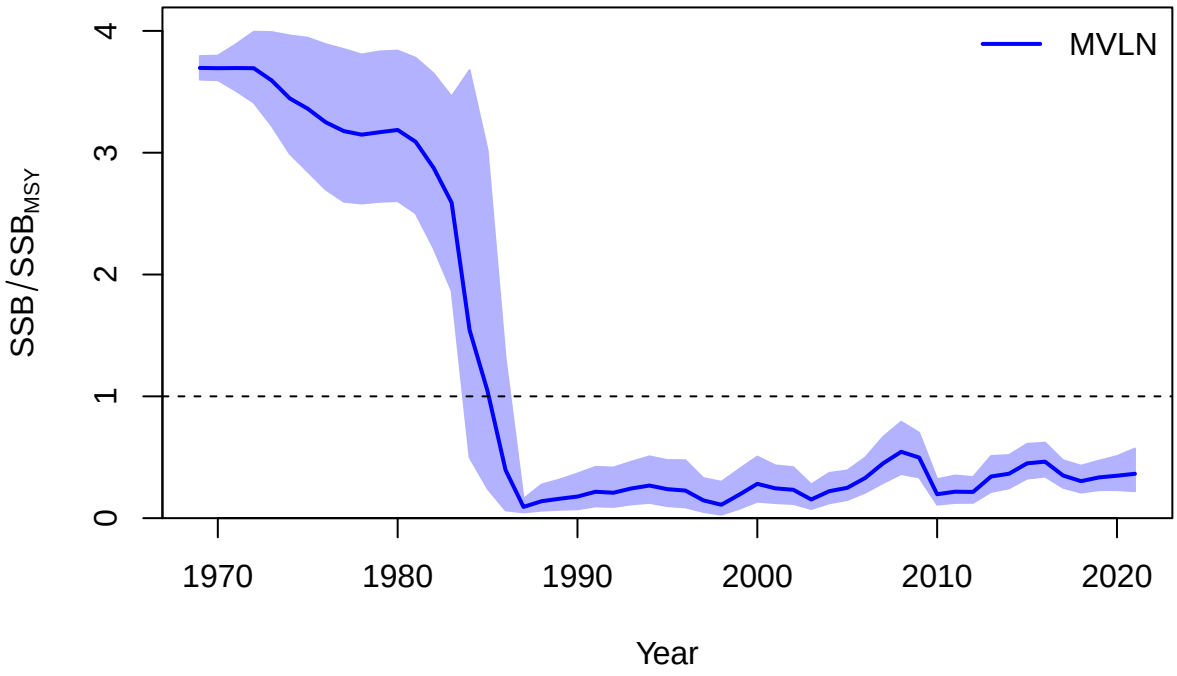


Management Quantities

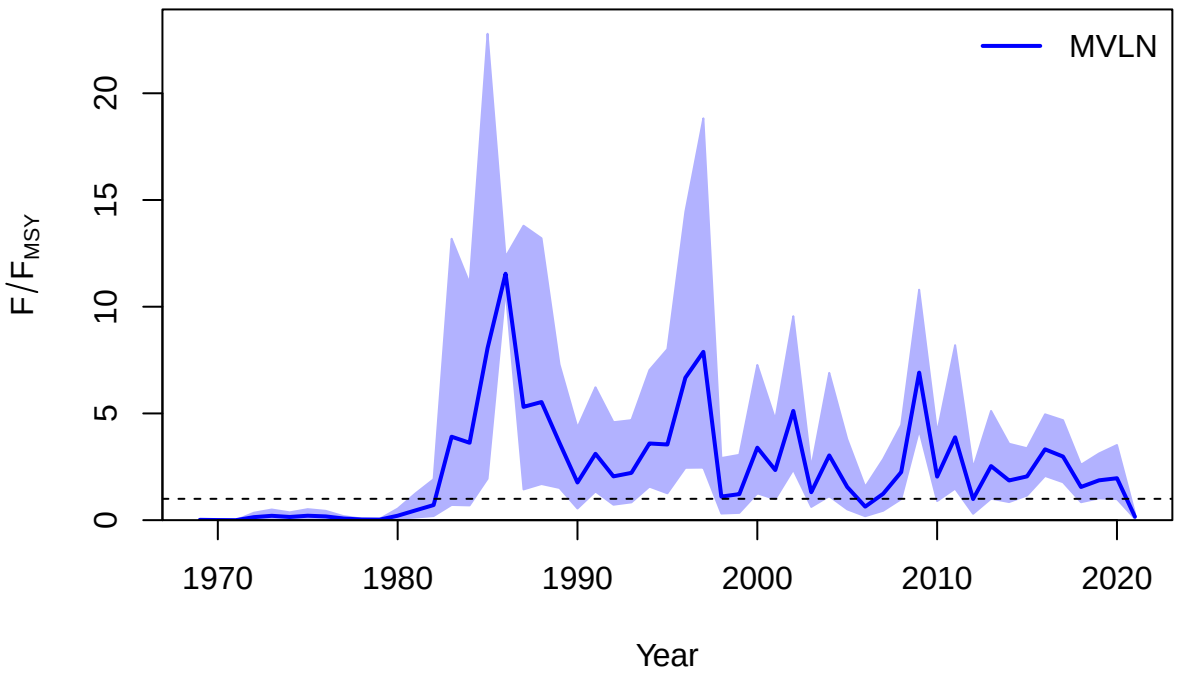
```
##
##  starter.sso with Bratio: SSB/SSBMSY and F: _abs_F
##
```



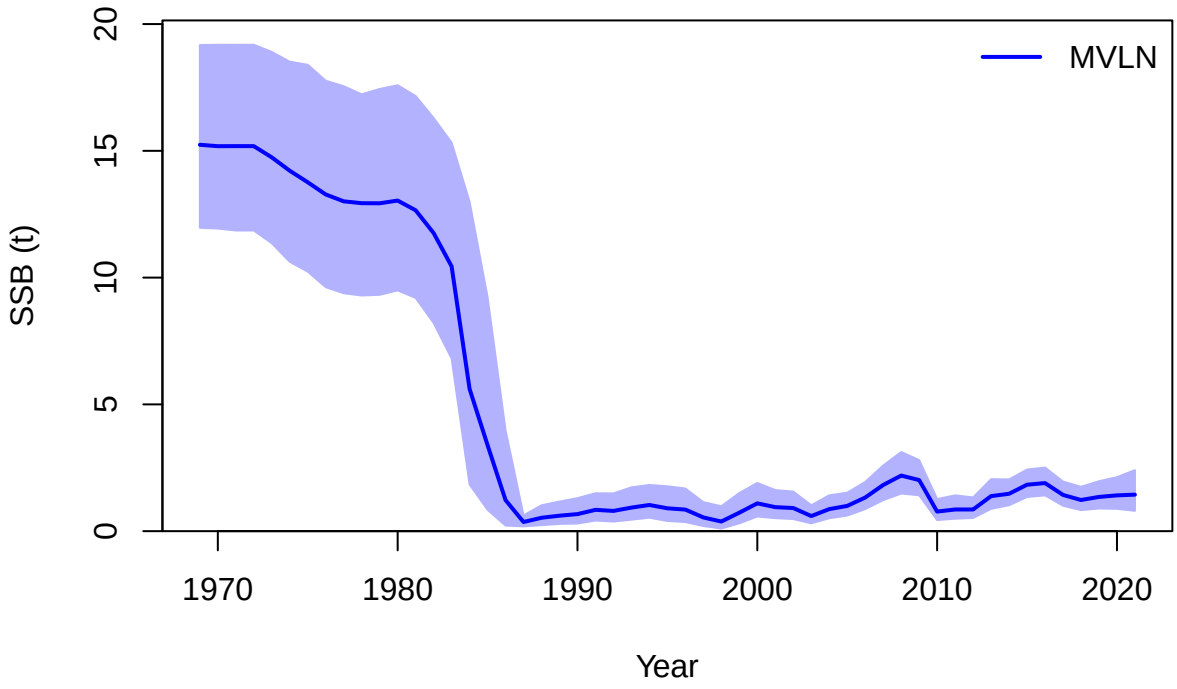

```
##
## Plot Comparison of stock
```



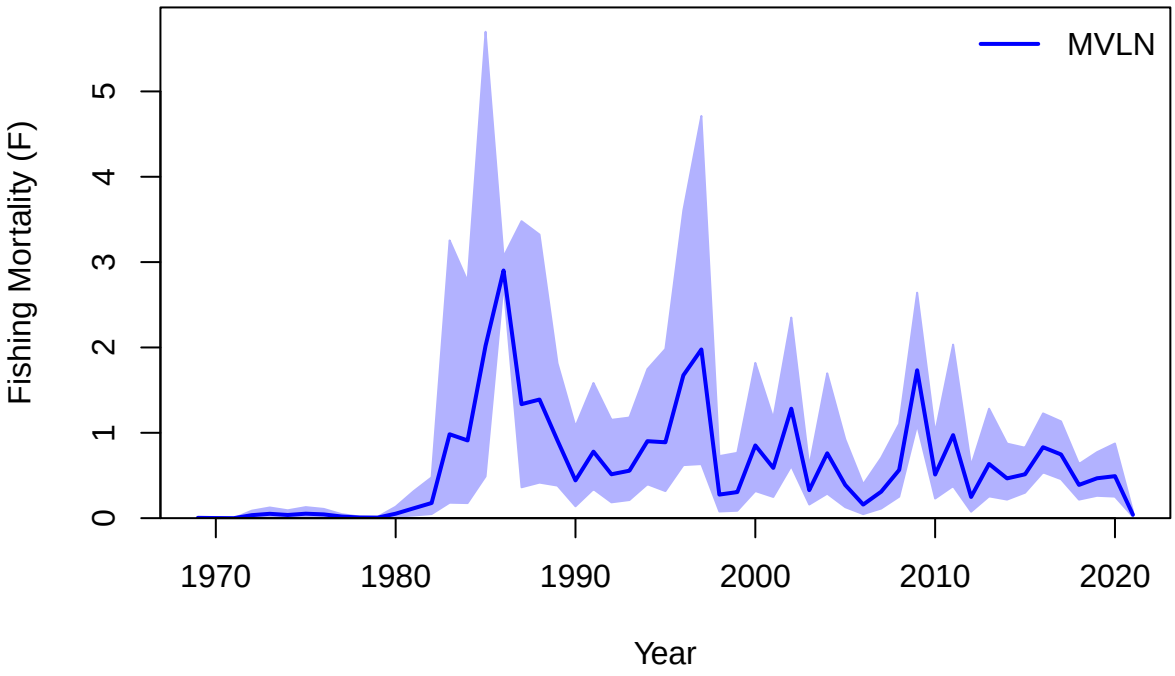

```
##
## Plot Comparison of harvest
```




```
##
## Plot Comparison of SSB
```




```
##
## Plot Comparison of F
```




```
## RStudioGD
##         2
```

Jitter

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