ASAP ALTERNATIVE RUN (F08_MULTI.REP)

```
Age Structured Assessment Program (ASAP) Version 2.0
Start time for run: Fri Mar 28 14:03:48 2008

obj_fun        = 15241

Component                Lambda          obj_fun
__Catch_Fleet_1               10          1877.04
__Catch_Fleet_2               10          1544.39
__Catch_Fleet_3               10          1939.13
__Catch_Fleet_4               10          739.297
__Catch_Fleet_5               10          1782.98
__Catch_Fleet_6               10          1211.04
Catch_Fleet_Total             60          9093.88
Discard_Fleet_Total           0           0
__Index_Fit_1                 1           66.6243
__Index_Fit_2                 1           80.0002
__Index_Fit_3                 1           67.5598
__Index_Fit_4                 1           51.4012
__Index_Fit_5                 1           -0.0202589
__Index_Fit_6                 1           153.535
__Index_Fit_7                 1           239.541
__Index_Fit_8                 1           200.97
__Index_Fit_9                 1           196.886
__Index_Fit_10                 1           -16.6202
__Index_Fit_11                 1           86.1327
__Index_Fit_12                 1           91.1568
__Index_Fit_13                 1           52.1087
__Index_Fit_14                 1           150.254
__Index_Fit_15                 1           99.362
__Index_Fit_16                 1           134.953
__Index_Fit_17                 1           122.561
__Index_Fit_18                 1           2.24523
__Index_Fit_19                 1           8.671
__Index_Fit_20                 1           28.7793
__Index_Fit_21                 1           47.6055
__Index_Fit_22                 1           16.6357
__Index_Fit_23                 1           16.9894
__Index_Fit_24                 1           -51.5095
__Index_Fit_25                 1           135.333
__Index_Fit_26                 1           103.877
__Index_Fit_27                 1           4.76758
__Index_Fit_28                 1           18.3802
__Index_Fit_29                 1           51.2794
__Index_Fit_30                 1           35.4177
__Index_Fit_31                 1           2.77264
__Index_Fit_32                 1           -2.8089
__Index_Fit_33                 1           -8.864
__Index_Fit_34                 1           22.0102
__Index_Fit_35                 1           84.0859
__Index_Fit_36                 1           29.798
__Index_Fit_37                 1           -1.6381
__Index_Fit_38                 1           10.6022
__Index_Fit_39                 1           -26.1076
Index_Fit_Total               39           2304.73
```

```
Catch_Age_Comps       see_below          2969.88
Discard_Age_Comps     see_below          0
Survey_Age_Comps      see_below          0
__Sel_Param_1                1          0.936118
__Sel_Param_2                1          9.50888
__Sel_Param_3                1          1.07152
__Sel_Param_4                1          3.29308
__Sel_Param_5                0          0
__Sel_Param_6                0          0
__Sel_Param_7                0          0
__Sel_Param_8                0          0
__Sel_Param_9                1          31.9103
__Sel_Param_11               1          27.3277
__Sel_Param_12               1          36.5316
__Sel_Param_13               1          127.817
__Sel_Param_17               1          43.6811
__Sel_Param_18               1          52.9685
__Sel_Param_20               1          32.7438
__Sel_Param_21               1          127.076
__Sel_Param_25               1          5.63047
__Sel_Param_26               1          6.40689
__Sel_Param_27               1          0.964431
__Sel_Param_28               1          2.43487
__Sel_Param_29               1          0.983463
__Sel_Param_30               1          6.26073
__Sel_Param_31               1          1.87898
__Sel_Param_32               1          0.471283
__Sel_Param_33               1          0.862186
__Sel_Param_34               1          3.08129
__Sel_Param_35               1          1.69466
__Sel_Param_36               1          0.45685
Sel_Params_Total            24           525.991
Index_Sel_Params_Total       0          0
q_year1_Total                0          0
q_devs_Total            390000               0
__Fmult_year1_fleet_1        1          -0.0337486
__Fmult_year1_fleet_2        1          -0.947953
__Fmult_year1_fleet_3        1          119.098
__Fmult_year1_fleet_4        1          119.098
__Fmult_year1_fleet_5        1          -0.912333
__Fmult_year1_fleet_6        1          -2.32929
Fmult_year1_fleet_Total      6          233.973
Fmult_devs_fleet_Total       0          0
N_year_1                     1          112.517
Recruit_devs                 0          0
SRR_steepness                0          0
SRR_unexpl_stock             0          0
Fmult_Max_penalty         1000          0
F_penalty                    0          0

 Input and Estimated effective sample sizes for fleet 1
1982  31  0.147417
1983  33  0.898701
1984  43  5.6284
1985  379  28.2572
1986  39  1.61224
1987  46  1.9825
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1988  663  6.13933
1989  92  0.268166
1990  2270  14.4763
1991  58  5.38301
1992  173  36.1143
1993  415  0.543977
1994  106  27.0134
1995  75  5.5447
1996  222  74.3296
1997  267  29.7625
1998  151  34.9819
1999  187  35.1401
2000  125  220.538
2001  215  64.1492
2002  61  54.2717
2003  236  190.693
2004  139  198.832
2005  368  108.406
2006  194  137.673
 Total  6588  1282.79
 Input and Estimated effective sample sizes for fleet 2
1982  10  0.712283
1983  10  3.03629
1984  10  6.36126
1985  10  16.0141
1986  10  3.56065
1987  10  4.11491
1988  10  4.53438
1989  10  0.274052
1990  10  1.73521
1991  10  1.26817
1992  10  1.42726
1993  10  0.346909
1994  10  1.9512
1995  10  14.0067
1996  10  492.898
1997  10  52.9347
1998  10  3.472
1999  10  57.4301
2000  10  11.5192
2001  10  98.716
2002  10  17.431
2003  10  35.0355
2004  10  121.414
2005  10  73.0833
2006  10  21.8506
 Total  250  1045.13
 Input and Estimated effective sample sizes for fleet 3
1982  0  0.465551
1983  0  0.0121706
1984  0  0.0209155
1985  0  0.074156
1986  0  0.0108732
1987  0  0.0129946
1988  0  0.156564
1989  10  0.0196182
1990  10  0.15668
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1991  10  0.319361
1992  10  0.105662
1993  10  0.00947753
1994  10  0.187696
1995  10  0.0592449
1996  10  0.145677
1997  10  0.0946546
1998  10  0.0745172
1999  10  0.0840536
2000  10  0.0706801
2001  10  0.0532664
2002  10  0.0806595
2003  10  0.142673
2004  10  0.11657
2005  10  0.0653514
2006  10  0.134733
 Total  180  2.6738
 Input and Estimated effective sample sizes for fleet 4
1982  0  0.686486
1983  0  1.21655
1984  0  0.0572049
1985  0  0.030537
1986  0  0.205963
1987  0  0.0968318
1988  0  0.0207169
1989  0  0.661225
1990  0  0.0322526
1991  0  0.0945405
1992  0  0.0561221
1993  0  0.602836
1994  10  0.0372712
1995  10  0.273627
1996  10  0.0435081
1997  10  0.170818
1998  10  0.119031
1999  10  0.160654
2000  10  0.146684
2001  10  0.0809365
2002  10  0.147593
2003  10  0.176547
2004  10  0.358269
2005  10  0.525562
2006  10  0.36881
 Total  130  6.37058
 Input and Estimated effective sample sizes for fleet 5
1982  10  0.175635
1983  10  1.07349
1984  10  11.7974
1985  10  0.984143
1986  10  0.835117
1987  10  11.3206
1988  10  0.419009
1989  10  1.0212
1990  10  1.15092
1991  10  1.93541
1992  10  0.220628
1993  10  1.35793
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1994  10  1.89303
1995  10  14.9871
1996  10  149.609
1997  10  124.659
1998  10  41.583
1999  10  12.8314
2000  10  33.1151
2001  10  81.1593
2002  10  18.3198
2003  10  26.2859
2004  10  33.2905
2005  10  25.1711
2006  10  16.5029
 Total  250  611.699
 Input and Estimated effective sample sizes for fleet 6
1982  10  0.489658
1983  10  104.521
1984  10  6.07525
1985  10  2.28558
1986  10  14.9846
1987  10  10.7144
1988  10  1.01669
1989  10  32.2254
1990  10  3.54807
1991  10  4.52461
1992  10  1.67619
1993  10  21.4085
1994  10  3.55157
1995  10  6.61065
1996  10  2.5926
1997  10  23.9414
1998  10  17.7821
1999  10  6.75535
2000  10  11.8739
2001  10  96.8511
2002  10  69.6861
2003  10  749.762
2004  10  72.6829
2005  10  42.7866
2006  10  1495.42
 Total  250  2803.77

 Input and Estimated effective Discard sample sizes for fleet 1
1982  0  1e+15
1983  0  1e+15
1984  0  1e+15
1985  0  1e+15
1986  0  1e+15
1987  0  1e+15
1988  0  1e+15
1989  0  1e+15
1990  0  1e+15
1991  0  1e+15
1992  0  1e+15
1993  0  1e+15
1994  0  1e+15
1995  0  1e+15
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1996  0  1e+15
1997  0  1e+15
1998  0  1e+15
1999  0  1e+15
2000  0  1e+15
2001  0  1e+15
2002  0  1e+15
2003  0  1e+15
2004  0  1e+15
2005  0  1e+15
2006  0  1e+15
 Total  0  2.5e+16
 Input and Estimated effective Discard sample sizes for fleet 2
1982  0  1e+15
1983  0  1e+15
1984  0  1e+15
1985  0  1e+15
1986  0  1e+15
1987  0  1e+15
1988  0  1e+15
1989  0  1e+15
1990  0  1e+15
1991  0  1e+15
1992  0  1e+15
1993  0  1e+15
1994  0  1e+15
1995  0  1e+15
1996  0  1e+15
1997  0  1e+15
1998  0  1e+15
1999  0  1e+15
2000  0  1e+15
2001  0  1e+15
2002  0  1e+15
2003  0  1e+15
2004  0  1e+15
2005  0  1e+15
2006  0  1e+15
 Total  0  2.5e+16
 Input and Estimated effective Discard sample sizes for fleet 3
1982  0  1e+15
1983  0  1e+15
1984  0  1e+15
1985  0  1e+15
1986  0  1e+15
1987  0  1e+15
1988  0  1e+15
1989  0  1e+15
1990  0  1e+15
1991  0  1e+15
1992  0  1e+15
1993  0  1e+15
1994  0  1e+15
1995  0  1e+15
1996  0  1e+15
1997  0  1e+15
1998  0  1e+15
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1999  0  1e+15
2000  0  1e+15
2001  0  1e+15
2002  0  1e+15
2003  0  1e+15
2004  0  1e+15
2005  0  1e+15
2006  0  1e+15
 Total  0  2.5e+16
 Input and Estimated effective Discard sample sizes for fleet 4
1982  0  1e+15
1983  0  1e+15
1984  0  1e+15
1985  0  1e+15
1986  0  1e+15
1987  0  1e+15
1988  0  1e+15
1989  0  1e+15
1990  0  1e+15
1991  0  1e+15
1992  0  1e+15
1993  0  1e+15
1994  0  1e+15
1995  0  1e+15
1996  0  1e+15
1997  0  1e+15
1998  0  1e+15
1999  0  1e+15
2000  0  1e+15
2001  0  1e+15
2002  0  1e+15
2003  0  1e+15
2004  0  1e+15
2005  0  1e+15
2006  0  1e+15
 Total  0  2.5e+16
 Input and Estimated effective Discard sample sizes for fleet 5
1982  0  1e+15
1983  0  1e+15
1984  0  1e+15
1985  0  1e+15
1986  0  1e+15
1987  0  1e+15
1988  0  1e+15
1989  0  1e+15
1990  0  1e+15
1991  0  1e+15
1992  0  1e+15
1993  0  1e+15
1994  0  1e+15
1995  0  1e+15
1996  0  1e+15
1997  0  1e+15
1998  0  1e+15
1999  0  1e+15
2000  0  1e+15
2001  0  1e+15
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2002  0  1e+15
2003  0  1e+15
2004  0  1e+15
2005  0  1e+15
2006  0  1e+15
 Total  0  2.5e+16
 Input and Estimated effective Discard sample sizes for fleet 6
1982  0  1e+15
1983  0  1e+15
1984  0  1e+15
1985  0  1e+15
1986  0  1e+15
1987  0  1e+15
1988  0  1e+15
1989  0  1e+15
1990  0  1e+15
1991  0  1e+15
1992  0  1e+15
1993  0  1e+15
1994  0  1e+15
1995  0  1e+15
1996  0  1e+15
1997  0  1e+15
1998  0  1e+15
1999  0  1e+15
2000  0  1e+15
2001  0  1e+15
2002  0  1e+15
2003  0  1e+15
2004  0  1e+15
2005  0  1e+15
2006  0  1e+15
 Total  0  2.5e+16

Observed and predicted total fleet catch by year and standardized residual
 fleet 1 total catches
1982  7536  6808.31  1.018
1983  10201  8780.13  1.50368
1984  11455  11409.2  0.0401375
1985  10767  11248.1  -0.438256
1986  9500  9556.78  -0.0597368
1987  9945  9795.27  0.152079
1988  11616  8659.4  2.94471
1989  6218  6391.27  -0.275538
1990  2962  3195.09  -0.759405
1991  4629  4805.83  -0.375827
1992  6361  6431.46  -0.110439
1993  4401  4267.02  0.30994
1994  4969  4949  0.0404371
1995  4911  4946.34  -0.0718918
1996  3947  3887.15  0.153165
1997  3313  3298.67  0.0434524
1998  3730  3688.7  0.11163
1999  3551  3505.36  0.129687
2000  3564  3538.21  0.0728044
2001  3705  3681.62  0.0634488
2002  4723  4710.29  0.0270092
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2003  4835  4837.98  -0.0061673
2004  6036  6030.34  0.00940711
2005  5984  5946.27  0.0634089
2006  4481  4479.84  0.00258531
 fleet 2 total catches
1982  2864  2756.09  0.385008
1983  3201  3062.1  0.444739
1984  5674  5666.49  0.0132711
1985  3907  3960.58  -0.136546
1986  2687  2690.51  -0.0130697
1987  2326  2318.15  0.0339056
1988  3071  2810.69  0.887935
1989  1908  1932.72  -0.129074
1990  1237  1271.82  -0.278293
1991  1595  1613.29  -0.114287
1992  1168  1169.96  -0.0167759
1993  1313  1300.87  0.0930692
1994  1620  1618.14  0.0115446
1995  2066  2077.57  -0.0559815
1996  1913  1891.75  0.111965
1997  681  680.057  0.013885
1998  1346  1341.01  0.0372674
1999  1271  1265.3  0.0450859
2000  1521  1516.72  0.0282323
2001  1265  1262.73  0.0180238
2002  1850  1847.32  0.014526
2003  1614  1614.25  -0.0015759
2004  2193  2190.99  0.00917416
2005  1841  1837.65  0.0182392
2006  1781  1780.86  0.000765442
 fleet 3 total catches
1982  0  1.40667e-05  -8.80433
1983  0  1.47689e-09  -0.00148046
1984  0  6.96215e-16  -6.97961e-10
1985  0  7.38186e-23  0
1986  0  4.60965e-16  -4.62114e-10
1987  0  4.43437e-10  -0.000444533
1988  0  2.02826e-05  -11.1075
1989  709  343.032  7.27843
1990  1214  1227.14  -0.107945
1991  1052  1038.78  0.126742
1992  690  697.592  -0.109703
1993  846  838.904  0.0844358
1994  434  433.774  0.00522764
1995  138  138.032  -0.00234467
1996  355  355.288  -0.00813577
1997  239  238.914  0.00360223
1998  254  253.854  0.00574547
1999  1181  1176.88  0.0350503
2000  592  591.107  0.0151337
2001  230  229.99  0.000455151
2002  307  306.853  0.00481126
2003  445  445.314  -0.00707772
2004  170  170.006  -0.000331974
2005  153  153.004  -0.000237102
2006  214  214.006  -0.00030281
 fleet 4 total catches
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1982  0  1.03116e-05  -7.10375
1983  0  5.16666e-10  -0.00051794
1984  0  3.2367e-15  -3.24477e-09
1985  0  2.22793e-19  -2.31502e-13
1986  0  4.26525e-23  0
1987  0  7.94291e-17  -7.96367e-11
1988  0  1.13948e-19  -1.24655e-13
1989  0  1.9091e-24  0
1990  0  1.06716e-20  -1.78078e-14
1991  0  9.79708e-16  -9.82156e-10
1992  0  1.2577e-11  -1.26083e-05
1993  0  1.00546e-05  -6.9761
1994  472  333.056  3.49538
1995  170  169.807  0.0113972
1996  108  108.009  -0.000879486
1997  86  86.0074  -0.0008571
1998  135  134.911  0.00664133
1999  367  366.362  0.017434
2000  134  133.944  0.00415458
2001  238  237.756  0.0102942
2002  142  142.026  -0.00184111
2003  83  82.9992  9.1354e-05
2004  74  74.0098  -0.0013227
2005  77  76.9847  0.00199767
2006  74  73.9997  3.75302e-05
 fleet 5 total catches
1982  8267  7849.96  0.518921
1983  12687  11645.9  0.858355
1984  8512  8505.84  0.00726035
1985  5665  5727.57  -0.110116
1986  8102  8106.96  -0.00614051
1987  5519  5494.02  0.045485
1988  6634  6091.35  0.855509
1989  1435  1445.04  -0.0699211
1990  2329  2404.04  -0.317924
1991  3611  3704.07  -0.255098
1992  3242  3233.12  0.0274908
1993  4006  3926.26  0.201564
1994  4231  4230.83  0.00039813
1995  2459  2466.04  -0.0286794
1996  4454  4404.8  0.111347
1997  5382  5348.39  0.0627967
1998  5659  5564.69  0.168474
1999  3795  3743.22  0.137728
2000  7470  7353.87  0.157069
2001  5279  5231.99  0.0896783
2002  3632  3624.77  0.0199651
2003  5279  5284.45  -0.0103434
2004  4831  4829.44  0.00323729
2005  4724  4701.11  0.0486843
2006  4992  4990.71  0.00259726
 fleet 6 total catches
1982  296  292.638  0.114522
1983  376  374.429  0.0419676
1984  415  415.391  -0.00942972
1985  92  92.0251  -0.00273715
1986  578  577.949  0.000880506
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1987  522  521.61  0.00748324
1988  341  336.182  0.142656
1989  45  45.0274  -0.00609459
1990  234  235.446  -0.0617614
1991  429  429.566  -0.0132188
1992  344  344.109  -0.00317179
1993  910  903.223  0.0749427
1994  687  686.749  0.0036706
1995  752  752.206  -0.00275198
1996  681  681.467  -0.00687548
1997  556  555.933  0.00120232
1998  734  732.367  0.0223255
1999  711  709.099  0.0268445
2000  952  949.437  0.027028
2001  1274  1270.68  0.0261641
2002  777  776.799  0.00259448
2003  882  882.647  -0.00735179
2004  1034  1035.26  -0.0122511
2005  999  998.253  0.00749436
2006  795  794.89  0.00139047
Observed and predicted total fleet Discards by year and standardized residual
 fleet 1 total Discards
1982  0  0  0
1983  0  0  0
1984  0  0  0
1985  0  0  0
1986  0  0  0
1987  0  0  0
1988  0  0  0
1989  0  0  0
1990  0  0  0
1991  0  0  0
1992  0  0  0
1993  0  0  0
1994  0  0  0
1995  0  0  0
1996  0  0  0
1997  0  0  0
1998  0  0  0
1999  0  0  0
2000  0  0  0
2001  0  0  0
2002  0  0  0
2003  0  0  0
2004  0  0  0
2005  0  0  0
2006  0  0  0
 fleet 2 total Discards
1982  0  0  0
1983  0  0  0
1984  0  0  0
1985  0  0  0
1986  0  0  0
1987  0  0  0
1988  0  0  0
1989  0  0  0
1990  0  0  0
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1991  0  0  0
1992  0  0  0
1993  0  0  0
1994  0  0  0
1995  0  0  0
1996  0  0  0
1997  0  0  0
1998  0  0  0
1999  0  0  0
2000  0  0  0
2001  0  0  0
2002  0  0  0
2003  0  0  0
2004  0  0  0
2005  0  0  0
2006  0  0  0
 fleet 3 total Discards
1982  0  0  0
1983  0  0  0
1984  0  0  0
1985  0  0  0
1986  0  0  0
1987  0  0  0
1988  0  0  0
1989  0  0  0
1990  0  0  0
1991  0  0  0
1992  0  0  0
1993  0  0  0
1994  0  0  0
1995  0  0  0
1996  0  0  0
1997  0  0  0
1998  0  0  0
1999  0  0  0
2000  0  0  0
2001  0  0  0
2002  0  0  0
2003  0  0  0
2004  0  0  0
2005  0  0  0
2006  0  0  0
 fleet 4 total Discards
1982  0  0  0
1983  0  0  0
1984  0  0  0
1985  0  0  0
1986  0  0  0
1987  0  0  0
1988  0  0  0
1989  0  0  0
1990  0  0  0
1991  0  0  0
1992  0  0  0
1993  0  0  0
1994  0  0  0
1995  0  0  0
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1996  0  0  0
1997  0  0  0
1998  0  0  0
1999  0  0  0
2000  0  0  0
2001  0  0  0
2002  0  0  0
2003  0  0  0
2004  0  0  0
2005  0  0  0
2006  0  0  0
 fleet 5 total Discards
1982  0  0  0
1983  0  0  0
1984  0  0  0
1985  0  0  0
1986  0  0  0
1987  0  0  0
1988  0  0  0
1989  0  0  0
1990  0  0  0
1991  0  0  0
1992  0  0  0
1993  0  0  0
1994  0  0  0
1995  0  0  0
1996  0  0  0
1997  0  0  0
1998  0  0  0
1999  0  0  0
2000  0  0  0
2001  0  0  0
2002  0  0  0
2003  0  0  0
2004  0  0  0
2005  0  0  0
2006  0  0  0
 fleet 6 total Discards
1982  0  0  0
1983  0  0  0
1984  0  0  0
1985  0  0  0
1986  0  0  0
1987  0  0  0
1988  0  0  0
1989  0  0  0
1990  0  0  0
1991  0  0  0
1992  0  0  0
1993  0  0  0
1994  0  0  0
1995  0  0  0
1996  0  0  0
1997  0  0  0
1998  0  0  0
1999  0  0  0
2000  0  0  0
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2001  0  0  0
2002  0  0  0
2003  0  0  0
2004  0  0  0
2005  0  0  0
2006  0  0  0

Index data
index number 1
units = 2
month = 1
starting and ending ages for selectivity = 2  2
selectivity choice = -1
 year, obs index, pred index, standardized residual
1992  7.15  1.7176  4.85822
1993  6.5  5.96706  0.291415
1994  3.76  3.53126  0.213805
1995  6.07  4.17676  1.27341
1996  22.17  5.43429  4.78951
1997  3.86  3.8345  0.0225808
1998  1.68  3.68081  -2.67181
1999  2.11  4.5485  -2.61653
2000  0.7  3.40354  -5.38728
2001  3.07  4.10199  -0.987175
2002  2.77  3.74054  -1.02324
2003  8.17  3.99914  2.43354
2004  1.45  2.37909  -1.68672
2005  2.96  3.76141  -0.816199
2006  2.64  1.79904  1.30647
index number 2
units = 2
month = 1
starting and ending ages for selectivity = 3  3
selectivity choice = -1
 year, obs index, pred index, standardized residual
1992  4.74  2.38615  2.33804
1993  6.7  0.521387  8.69794
1994  7.2  7.41539  -0.100412
1995  4.59  4.58809  0.00142151
1996  8.33  9.25007  -0.356887
1997  4.8  11.9637  -3.11099
1998  3.25  8.86642  -3.41877
1999  4.8  8.50088  -1.94697
2000  6.52  9.73104  -1.3641
2001  5.33  7.56103  -1.19109
2002  10.74  9.72665  0.3376
2003  14.36  9.10086  1.55361
2004  8.68  9.5817  -0.336673
2005  4.03  5.6944  -1.17767
2006  9.06  8.86279  0.0749661
index number 3
units = 2
month = 1
starting and ending ages for selectivity = 4  4
selectivity choice = -1
 year, obs index, pred index, standardized residual
1992  0.33  0.589386  -1.9757
```

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1993  0.31  0.221784  1.14071
1994  0.82  0.162039  5.52345
1995  0.25  2.22421  -7.44548
1996  0.6  0.96853  -1.63118
1997  1.04  2.27324  -2.66379
1998  2.29  4.17855  -2.04869
1999  2.9  3.11713  -0.245953
2000  4.96  3.33931  1.34773
2001  6.42  3.60312  1.96763
2002  5.58  3.08997  2.01331
2003  8.48  4.32702  2.29197
2004  4.56  4.07383  0.38404
2005  3.07  4.04302  -0.937842
2006  4.29  2.19686  2.27979
index number 4
units = 2
month = 1
starting and ending ages for selectivity = 5  5
selectivity choice = -1
 year, obs index, pred index, standardized residual
1992  0.04  0.314245  -7.0217
1993  0.05  0.0582018  -0.517419
1994  0.26  0.0727777  4.33734
1995  0.02  0.0540931  -3.38933
1996  0.12  0.325862  -3.40299
1997  0.43  0.172074  3.11984
1998  0.42  0.696821  -1.7246
1999  0.84  1.29958  -1.48656
2000  2.51  1.17806  2.5767
2001  2.44  1.13166  2.61723
2002  2.26  1.42667  1.56704
2003  2.67  1.29098  2.47539
2004  1.64  1.83843  -0.389071
2005  1.34  1.60086  -0.605915
2006  2.47  1.43747  1.84404
index number 5
units = 2
month = 1
starting and ending ages for selectivity = 6  8
selectivity choice = -1
 year, obs index, pred index, standardized residual
1992  0.04  0.0364937  0.312509
1993  0.04  0.0528952  -0.951876
1994  0.01  0.0514255  -5.57823
1996  0.03  0.0221543  1.03273
1997  0.15  0.090818  1.70928
1998  0.12  0.113978  0.175374
1999  0.41  0.372351  0.328108
2000  1.08  0.922711  0.536175
2001  1.34  0.995307  1.01299
2002  1.33  1.18012  0.407287
2003  1.96  1.51704  0.872671
2004  1.44  1.63542  -0.433492
2005  1.49  1.90465  -0.836351
2006  2.6  1.71731  1.41283
index number 6
units = 2
```

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month = 1
starting and ending ages for selectivity = 2  2
selectivity choice = -1
 year, obs index, pred index, standardized residual
1982  0.7  0.00284095  14.2943
1983  0.32  1.2295  -3.49392
1984  0.17  1.23459  -5.14648
1985  0.55  0.348088  1.18744
1986  1.48  0.721365  1.8654
1987  0.47  0.955739  -1.8423
1988  0.6  0.136305  3.84692
1989  0.06  0.574106  -5.8623
1990  0.63  0.323374  1.7311
1991  0.79  0.407191  1.7203
1992  0.77  0.210314  3.36866
1993  0.73  0.730644  -0.00228805
1994  0.35  0.432389  -0.548711
1995  0.79  0.511428  1.12868
1996  1.08  0.665408  1.25714
1997  0.29  0.46952  -1.25068
1998  0.27  0.450701  -1.32999
1999  0.22  0.556946  -2.41099
2000  0.19  0.416751  -2.03883
2001  0.48  0.502273  -0.117737
2002  0.34  0.458014  -0.773401
2003  0.54  0.489679  0.253907
2004  0.3  0.29131  0.0762957
2005  0.26  0.46057  -1.48418
2006  0.04  0.220285  -4.42837
index number 7
units = 2
month = 1
starting and ending ages for selectivity = 3  3
selectivity choice = -1
 year, obs index, pred index, standardized residual
1982  1.43  0.00572953  14.3277
1983  0.39  0.00376573  12.0446
1984  0.33  1.64693  -4.17278
1985  1.56  1.5154  0.0752948
1986  0.43  0.318085  0.782516
1987  0.43  0.754771  -1.46041
1988  0.81  1.25758  -1.14186
1989  0.23  0.066575  3.21801
1990  0.03  0.693247  -8.15098
1991  0.27  0.449443  -1.32273
1992  0.41  0.376445  0.221634
1993  0.5  0.0822553  4.68466
1994  0.53  1.16987  -2.0552
1995  0.27  0.723827  -2.5597
1996  0.56  1.45931  -2.48612
1997  0.67  1.88743  -2.68834
1998  0.52  1.39879  -2.56852
1999  0.74  1.34112  -1.54343
2000  1.03  1.53519  -1.03593
2001  0.89  1.19285  -0.760219
2002  0.89  1.5345  -1.41397
2003  1.29  1.43577  -0.277899
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2004  1.45  1.51163  -0.108051
2005  0.65  0.898363  -0.839972
2006  1.04  1.39822  -0.768264
index number 8
units = 2
month = 1
starting and ending ages for selectivity = 4  4
selectivity choice = -1
 year, obs index, pred index, standardized residual
1982  0.12  0.0147666  5.4383
1983  0.19  0.00152039  12.5322
1984  0.09  0.0010045  11.6685
1985  0.21  0.402015  -1.6856
1986  0.2  0.267596  -0.755766
1987  0.02  0.0654596  -3.07772
1988  0.07  0.197092  -2.68701
1989  0.02  0.116296  -4.56948
1990  0.06  0.0163915  3.36813
1992  0.01  0.104575  -6.09292
1993  0.04  0.0393511  0.0424538
1994  0.04  0.0287506  0.857157
1995  0.02  0.394642  -7.741
1996  0.12  0.171846  -0.932131
1997  0.09  0.40334  -3.89346
1998  0.32  0.7414  -2.18095
1999  0.48  0.553072  -0.367813
2000  0.63  0.592493  0.159324
2001  1.02  0.6393  1.21267
2002  0.74  0.548252  0.77849
2003  0.59  0.767742  -0.683527
2004  0.85  0.722819  0.420705
2005  0.58  0.717351  -0.551682
2006  0.24  0.389789  -1.25883
index number 9
units = 2
month = 1
starting and ending ages for selectivity = 5  5
selectivity choice = -1
 year, obs index, pred index, standardized residual
1982  0.02  0.81385  -9.61976
1983  0.03  0.00427795  5.0557
1984  0.05  0.000438595  12.2937
1985  0.04  0.000265065  13.0217
1986  0.02  0.0764775  -3.48152
1987  0.01  0.0599833  -4.65014
1988  0.02  0.0185425  0.196414
1989  0.01  0.0199184  -1.78859
1991  0.02  0.00657355  2.88817
1994  0.01  0.0151058  -1.0707
1997  0.01  0.0357157  -3.30433
1998  0.06  0.144632  -2.28382
1999  0.13  0.269742  -1.89468
2000  0.12  0.244518  -1.84761
2001  0.2  0.234887  -0.417352
2002  0.31  0.296121  0.118896
2003  0.29  0.267956  0.20521
2004  0.27  0.381585  -0.897883
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2005  0.15  0.332275  -2.06443
2006  0.25  0.298361  -0.459031
index number 10
units = 2
month = 1
starting and ending ages for selectivity = 6  8
selectivity choice = -1
 year, obs index, pred index, standardized residual
1983  0.02  0.172594  -5.59427
1984  0.02  0.0538135  -2.5692
1985  0.02  0.0151936  0.713452
1986  0.01  0.00309704  3.04251
1992  0.01  0.00420913  2.24613
1995  0.01  0.0068009  1.00072
1998  0.02  0.0131461  1.08917
1999  0.03  0.0429465  -0.931226
2000  0.17  0.106424  1.21573
2001  0.1  0.114797  -0.358202
2002  0.19  0.136113  0.865757
2003  0.2  0.174974  0.346997
2004  0.16  0.188627  -0.427247
2005  0.17  0.219679  -0.665459
2006  0.2  0.198072  0.0251384
index number 11
units = 2
month = 1
starting and ending ages for selectivity = 3  3
selectivity choice = -1
 year, obs index, pred index, standardized residual
1983  1.52  0.00558967  10.109
1984  1.46  2.44463  -0.929565
1985  1.39  2.24938  -0.868062
1986  0.8  0.47215  0.950953
1987  0.83  1.12034  -0.540953
1988  0.58  1.86668  -2.10796
1989  0.62  0.0988206  3.31176
1990  0.21  1.02902  -2.86604
1991  0.38  0.667131  -1.01497
1992  0.84  0.558776  0.735154
1993  1.04  0.122096  3.86316
1994  0.8  1.7365  -1.39765
1995  0.67  1.07441  -0.851653
1996  1.16  2.16613  -1.12626
1997  1.24  2.80161  -1.4699
1998  1.29  2.07629  -0.858304
1999  2.13  1.99069  0.12198
2000  1.73  2.27876  -0.496853
2001  1.2  1.7706  -0.701514
2002  1.36  2.27773  -0.929999
2003  1.17  2.13119  -1.08145
2004  1.31  2.24379  -0.970474
2005  1.49  1.33349  0.200139
2006  1.14  2.07544  -1.08049
index number 12
units = 2
month = 1
starting and ending ages for selectivity = 4  4
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selectivity choice = -1
 year, obs index, pred index, standardized residual
1983  0.4  0.0032314  8.68969
1984  0.34  0.00213494  9.14407
1985  0.43  0.854435  -1.2383
1986  0.46  0.568744  -0.382685
1987  0.11  0.139127  -0.423624
1988  0.2  0.418897  -1.33325
1989  0.18  0.247174  -0.571916
1990  0.05  0.0348382  0.651579
1991  0.03  0.543435  -5.22389
1992  0.09  0.222261  -1.63034
1993  0.25  0.0836361  1.97468
1994  0.03  0.0611059  -1.28295
1995  0.09  0.838764  -4.02537
1996  0.28  0.365238  -0.479268
1997  0.57  0.857251  -0.735952
1998  1.14  1.57576  -0.58377
1999  1.63  1.17549  0.58952
2000  1.49  1.25928  0.303401
2001  1.22  1.35876  -0.19426
2002  0.93  1.16524  -0.406666
2003  0.86  1.63174  -1.15502
2004  1.03  1.53627  -0.720985
2005  1.37  1.52465  -0.192874
2006  0.54  0.828451  -0.771827
index number 13
units = 2
month = 1
starting and ending ages for selectivity = 5  5
selectivity choice = -1
 year, obs index, pred index, standardized residual
1983  0.03  0.0097682  2.02351
1984  0.12  0.00100148  8.63102
1985  0.07  0.000605246  8.56719
1986  0.05  0.174627  -2.25537
1987  0.11  0.136965  -0.395381
1988  0.03  0.0423395  -0.621308
1989  0.03  0.0454813  -0.750396
1991  0.04  0.0150099  1.76762
1993  0.03  0.0275841  0.151405
1994  0.01  0.0344922  -2.23286
1995  0.01  0.0256368  -1.69779
1996  0.02  0.154439  -3.68624
1997  0.04  0.0815525  -1.28467
1998  0.29  0.330251  -0.23439
1999  0.33  0.615923  -1.12537
2000  0.31  0.558327  -1.06106
2001  0.4  0.536336  -0.528927
2002  0.37  0.676157  -1.0873
2003  0.35  0.611846  -1.00728
2004  0.25  0.871305  -2.25158
2005  0.66  0.758712  -0.25136
2006  0.47  0.681272  -0.669469
index number 14
units = 2
month = 1
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```
starting and ending ages for selectivity = 3  3
selectivity choice = -1
 year, obs index, pred index, standardized residual
1982  1.584  0.00621432  9.99228
1983  0.599  0.00408436  8.99545
1984  0.078  1.78628  -5.64673
1985  1.26  1.64362  -0.47932
1986  0.522  0.344999  0.746829
1987  0.64  0.818633  -0.443936
1988  1.005  1.36398  -0.55079
1989  0.363  0.072208  2.9122
1990  0.021  0.751904  -6.45266
1991  0.05  0.487472  -4.10668
1992  0.342  0.408297  -0.31953
1993  0.492  0.0892151  3.07915
1994  1.217  1.26886  -0.0752493
1995  1.302  0.785072  0.912299
1996  0.686  1.58279  -1.50775
1997  1.279  2.04713  -0.848239
1998  1.212  1.51714  -0.404961
1999  0.878  1.45459  -0.910413
2000  1.659  1.66509  -0.00660555
2001  1.026  1.29378  -0.4182
2002  1.511  1.66434  -0.174306
2003  1.44  1.55726  -0.141174
2004  0.283  1.63954  -3.16804
2005  0.351  0.974375  -1.84127
2006  2.44  1.51652  0.857651
index number 15
units = 2
month = 1
starting and ending ages for selectivity = 4  4
selectivity choice = -1
 year, obs index, pred index, standardized residual
1982  0.142  0.0178219  3.74274
1983  0.45  0.00183496  9.92262
1984  0.067  0.00121233  7.23544
1985  0.036  0.485194  -4.69065
1986  0.185  0.322963  -1.00481
1987  0.013  0.0790035  -3.25428
1988  0.123  0.237872  -1.18942
1989  0.102  0.140358  -0.575688
1990  0.081  0.019783  2.5421
1991  0.012  0.308591  -5.85579
1992  0.09  0.126212  -0.609814
1993  0.065  0.047493  0.56591
1994  0.048  0.0346992  0.585171
1995  0.053  0.476295  -3.95977
1996  0.114  0.207402  -1.07925
1997  0.181  0.486793  -1.78416
1998  0.659  0.894799  -0.551611
1999  1.112  0.667505  0.920392
2000  1.205  0.715083  0.941071
2001  0.73  0.771575  -0.0998872
2002  0.397  0.661688  -0.921272
2003  0.624  0.926591  -0.71299
2004  0.323  0.872373  -1.79178
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2005  1.029  0.865775  0.311477
2006  0.975  0.470438  1.31426
index number 16
units = 2
month = 1
starting and ending ages for selectivity = 4  4
selectivity choice = -1
 year, obs index, pred index, standardized residual
1982  0.405  0.0741221  3.06246
1983  1.662  0.00763169  9.70846
1984  0.625  0.00504215  8.69216
1985  0.267  2.01794  -3.6475
1986  1.895  1.34322  0.620636
1987  0.679  0.328579  1.30897
1988  0.663  0.98932  -0.721791
1989  0.429  0.583757  -0.555494
1990  0.317  0.0822783  2.43239
1992  0.288  0.52492  -1.08254
1993  0.186  0.197526  -0.108424
1994  0.478  0.144316  2.15975
1995  0.076  1.98093  -5.8801
1996  0.506  0.862593  -0.961937
1997  1.282  2.02459  -0.824053
1998  1.508  3.72151  -1.62908
1999  0.59  2.77618  -2.79292
2000  0.94  2.97406  -2.07715
2001  2.303  3.20902  -0.598275
2002  1.083  2.75199  -1.68182
2003  1.302  3.85374  -1.95693
2004  1.254  3.62824  -1.91593
2005  1.455  3.6008  -1.63414
2006  2.049  1.95657  0.0832379
index number 17
units = 2
month = 1
starting and ending ages for selectivity = 5  5
selectivity choice = -1
 year, obs index, pred index, standardized residual
1982  0.012  1.25126  -8.38033
1983  0.02  0.00657719  2.00559
1984  0.154  0.000674324  9.79417
1985  0.127  0.000407528  10.3547
1986  0.04  0.117581  -1.9445
1987  0.214  0.0922221  1.51805
1988  0.011  0.0285083  -1.71737
1989  0.006  0.0306238  -2.93955
1990  0.016  0.0474074  -1.95882
1991  0.011  0.0101066  0.152759
1992  0.006  0.100281  -5.07872
1994  0.03  0.0232246  0.461643
1997  0.114  0.0549115  1.31733
1998  0.351  0.222367  0.823168
1999  0.262  0.414718  -0.828211
2000  0.379  0.375937  0.0146346
2001  0.494  0.36113  0.564997
2002  0.307  0.455275  -0.710629
2003  0.178  0.411973  -1.51335
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2004  0.256  0.586673  -1.49553
2005  0.136  0.510861  -2.38668
2006  1.35  0.458719  1.94661
index number 18
units = 2
month = 1
starting and ending ages for selectivity = 3  3
selectivity choice = -1
 year, obs index, pred index, standardized residual
1984  0.271  0.497999  -1.09732
1985  0.325  0.458225  -0.619526
1986  0.1  0.0961823  0.0701957
1987  0.086  0.228227  -1.76009
1988  0.223  0.380265  -0.962459
1989  0.049  0.0201309  1.60423
1990  0.022  0.209624  -4.06532
1991  0.189  0.135902  0.594775
1992  0.188  0.113829  0.904835
1993  0.151  0.0248723  3.25245
1994  0.314  0.353745  -0.214932
1995  0.051  0.21887  -2.62691
1996  0.266  0.441266  -0.912787
1997  0.507  0.57072  -0.213497
1998  0.594  0.422964  0.612413
1999  0.593  0.405527  0.685299
2000  0.726  0.46421  0.806495
2001  0.34  0.360692  -0.106543
2002  1.264  0.464001  1.80726
2003  1.016  0.434148  1.53331
2004  0.818  0.457087  1.04955
2005  0.264  0.271646  -0.0514908
2006  0.36  0.422792  -0.28994
index number 19
units = 2
month = 1
starting and ending ages for selectivity = 4  4
selectivity choice = -1
 year, obs index, pred index, standardized residual
1984  0.044  0.000395303  8.49807
1985  0.04  0.158206  -2.47969
1986  0.082  0.105308  -0.451149
1987  0.014  0.0257605  -1.09968
1988  0.035  0.0775623  -1.43501
1989  0.024  0.0457663  -1.16408
1990  0.013  0.00645059  1.26377
1991  0.029  0.100622  -2.24354
1992  0.021  0.0411535  -1.21329
1993  0.015  0.0154859  -0.0574964
1994  0.025  0.0113143  1.42974
1995  0.02  0.155304  -3.69631
1996  0.086  0.067627  0.433426
1997  0.057  0.158727  -1.84691
1998  0.503  0.291765  0.982198
1999  0.385  0.217652  1.02856
2000  0.524  0.233165  1.46028
2001  0.365  0.251586  0.671065
2002  0.465  0.215755  1.38481
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2003  0.395  0.302131  0.48335
2004  0.41  0.284453  0.6593
2005  0.15  0.282301  -1.14035
2006  0.068  0.153395  -1.46706
index number 20
units = 2
month = 1
starting and ending ages for selectivity = 5  5
selectivity choice = -1
 year, obs index, pred index, standardized residual
1985  0.058  0.00015053  10.7374
1986  0.008  0.0434313  -3.05086
1987  0.004  0.0340643  -3.86277
1988  0.009  0.0105302  -0.283173
1989  0.016  0.0113116  0.625342
1990  0.006  0.017511  -1.93155
1991  0.028  0.0037331  3.63376
1992  0.004  0.037041  -4.01385
1993  0.018  0.00686041  1.73955
1994  0.018  0.00857852  1.33651
1995  0.005  0.0063761  -0.438437
1996  0.023  0.0384103  -0.924831
1997  0.036  0.0202828  1.03468
1998  0.116  0.0821363  0.622547
1999  0.139  0.153185  -0.175244
2000  0.074  0.138861  -1.13506
2001  0.12  0.133391  -0.190791
2002  0.233  0.168166  0.58806
2003  0.232  0.152171  0.760541
2004  0.194  0.216701  -0.199563
2005  0.033  0.188698  -3.14445
2006  0.065  0.169438  -1.72782
index number 21
units = 2
month = 1
starting and ending ages for selectivity = 3  3
selectivity choice = -1
 year, obs index, pred index, standardized residual
1985  0.571  1.18195  -1.31202
1986  0.339  0.248094  0.563001
1987  1.17  0.588693  1.23866
1988  1.067  0.980861  0.1518
1989  0.884  0.051926  5.11194
1990  0.029  0.540707  -5.27595
1991  0.674  0.350549  1.17893
1992  0.826  0.293613  1.8653
1993  0.57  0.064156  3.93916
1994  0.827  0.912455  -0.177334
1995  0.3  0.564558  -1.14021
1996  0.384  1.13821  -1.9595
1997  0.887  1.47212  -0.913624
1998  0.681  1.091  -0.849915
1999  0.269  1.04602  -2.44907
2000  0.679  1.19739  -1.02302
2001  0.395  0.930376  -1.54496
2002  2.689  1.19685  1.45979
2003  3.087  1.11985  1.82864
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2004  1.459  1.17902  0.384248
2005  0.385  0.700689  -1.0799
2006  1.093  1.09056  0.0040374
index number 22
units = 2
month = 1
starting and ending ages for selectivity = 4  4
selectivity choice = -1
 year, obs index, pred index, standardized residual
1985  0.331  0.764198  -1.50891
1986  0.528  0.508679  0.0672297
1987  0.298  0.124434  1.57493
1988  0.223  0.374657  -0.935666
1989  0.481  0.22107  1.40193
1990  0.095  0.0311589  2.01037
1991  0.11  0.486043  -2.6795
1992  0.34  0.198788  0.967889
1993  0.366  0.0748033  2.86336
1994  0.152  0.0546525  1.84466
1995  0.085  0.750182  -3.92717
1996  0.117  0.326665  -1.85165
1997  1.188  0.766717  0.789718
1998  1.373  1.40934  -0.0471127
1999  1.054  1.05134  0.00454875
2000  1.484  1.12628  0.497407
2001  0.871  1.21526  -0.600654
2002  1.137  1.04218  0.157032
2003  1.93  1.45942  0.504017
2004  1.319  1.37402  -0.0736991
2005  0.755  1.36363  -1.06614
2006  0.744  0.740958  0.00738932
index number 23
units = 2
month = 1
starting and ending ages for selectivity = 5  5
selectivity choice = -1
 year, obs index, pred index, standardized residual
1985  0.072  0.000463814  9.09796
1986  0.075  0.133821  -1.04419
1987  0.072  0.104959  -0.67971
1988  0.033  0.0324458  0.0305435
1989  0.037  0.0348534  0.107781
1990  0.015  0.0539551  -2.30852
1991  0.042  0.0115025  2.33558
1992  0.036  0.114131  -2.0808
1993  0.046  0.0211384  1.40222
1994  0.039  0.0264322  0.701476
1995  0.024  0.0196461  0.36099
1996  0.012  0.11835  -4.12748
1997  0.042  0.0624957  -0.716714
1998  0.373  0.253079  0.699489
1999  0.321  0.471997  -0.695261
2000  0.346  0.42786  -0.38296
2001  0.341  0.411007  -0.336744
2002  0.436  0.518155  -0.311323
2003  0.479  0.468872  0.038538
2004  0.407  0.667702  -0.892727
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2005  0.44  0.581419  -0.502598
2006  0.355  0.522075  -0.695554
index number 24
units = 2
month = 1
starting and ending ages for selectivity = 6  8
selectivity choice = -1
 year, obs index, pred index, standardized residual
1985  0.025  0.0172014  0.67426
1986  0.009  0.00350631  1.69998
1987  0.007  0.0150196  -1.37679
1988  0.003  0.0185429  -3.28482
1989  0.003  0.00357342  -0.31543
1990  0.001  0.00532877  -3.01728
1991  0.012  0.012465  -0.0685657
1992  0.022  0.00476537  2.75858
1993  0.025  0.00690708  2.31974
1994  0.007  0.00671517  0.074915
1995  0.009  0.00769963  0.281422
1996  0.005  0.00289292  0.986763
1997  0.005  0.0118591  -1.5575
1998  0.04  0.0148834  1.78289
1999  0.075  0.0486218  0.781614
2000  0.127  0.120488  0.094922
2001  0.191  0.129968  0.69428
2002  0.134  0.154101  -0.252052
2003  0.183  0.198096  -0.142949
2004  0.203  0.213554  -0.091402
2005  0.119  0.24871  -1.32939
2006  0.151  0.224247  -0.713185
index number 25
units = 2
month = 1
starting and ending ages for selectivity = 4  4
selectivity choice = -1
 year, obs index, pred index, standardized residual
1982  1.74  0.0469391  6.51525
1983  0.52  0.0048329  8.43692
1984  0.42  0.00319303  8.79922
1985  0.49  1.2779  -1.72866
1986  0.28  0.850616  -2.00387
1987  0.51  0.208079  1.61673
1988  0.37  0.626504  -0.949755
1989  0.24  0.369674  -0.779032
1990  0.07  0.0521041  0.532451
1991  0.12  0.812764  -3.44978
1992  0.08  0.332414  -2.56866
1993  0.41  0.125087  2.14089
1994  0.22  0.0913903  1.58425
1995  0.03  1.25446  -6.73251
1996  0.2  0.546252  -1.81197
1997  1.03  1.28211  -0.394846
1998  0.96  2.35671  -1.6196
1999  0.36  1.75807  -2.85992
2000  1.91  1.88338  0.0253137
2001  1.24  2.03216  -0.890853
2002  0.63  1.74274  -1.83494
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2003  1.38  2.44044  -1.0281
2004  2.08  2.29765  -0.179467
2005  1.3  2.28027  -1.01337
2006  1.38  1.23903  0.194317
index number 26
units = 2
month = 1
starting and ending ages for selectivity = 5  5
selectivity choice = -1
 year, obs index, pred index, standardized residual
1982  0.2  1.61003  -3.76131
1983  0.07  0.00846304  3.81017
1984  0.11  0.000867669  8.73275
1985  0.1  0.000524377  9.46906
1986  0.02  0.151295  -3.64915
1987  0.13  0.118665  0.16453
1988  0.02  0.0366824  -1.09387
1992  0.01  0.129034  -4.61213
1993  0.11  0.0238985  2.75316
1994  0.07  0.0298836  1.53501
1997  0.01  0.070656  -3.52605
1998  0.03  0.286125  -4.06705
1999  0.09  0.533628  -3.20982
2000  0.35  0.483727  -0.583554
2001  0.45  0.464675  -0.0578707
2002  0.3  0.585813  -1.20686
2003  0.4  0.530095  -0.50782
2004  0.49  0.754887  -0.779356
2005  0.78  0.657338  0.308551
2006  0.69  0.590245  0.281605
index number 27
units = 2
month = 1
starting and ending ages for selectivity = 2  2
selectivity choice = -1
 year, obs index, pred index, standardized residual
1990  0.17  0.192384  -0.223068
1991  0.07  0.242248  -2.23884
1992  0.15  0.125121  0.327044
1993  0.11  0.434679  -2.47808
1994  0.08  0.25724  -2.10632
1995  0.2  0.304262  -0.75665
1996  0.41  0.395869  0.0632528
1997  0.17  0.27933  -0.89555
1998  0.07  0.268134  -2.42193
1999  0.26  0.331342  -0.437266
2000  0.63  0.247936  1.68174
2001  0.42  0.298816  0.613921
2002  0.81  0.272485  1.9647
2003  1.48  0.291323  2.93116
2004  0.54  0.173308  2.04954
2005  0.55  0.274005  1.25655
2006  0.19  0.131054  0.669808
index number 28
units = 2
month = 1
starting and ending ages for selectivity = 3  8
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selectivity choice = -1
 year, obs index, pred index, standardized residual
1990  0.1  0.330508  -2.15587
1991  0.08  0.214274  -1.77674
1992  0.18  0.179471  0.00530416
1993  0.14  0.0392155  2.29493
1994  0.05  0.55774  -4.34953
1995  0.22  0.345087  -0.811828
1996  0.53  0.695733  -0.49068
1997  0.52  0.899838  -0.98895
1998  0.36  0.666876  -1.11179
1999  0.61  0.639383  -0.0848404
2000  1.89  0.731908  1.71083
2001  0.55  0.568694  -0.0602757
2002  1.11  0.731577  0.751853
2003  2.25  0.68451  2.146
2004  1.53  0.720676  1.35765
2005  1.89  0.428298  2.67715
2006  1.09  0.666604  0.886791
index number 29
units = 2
month = 1
starting and ending ages for selectivity = 2  2
selectivity choice = -1
 year, obs index, pred index, standardized residual
1988  3.06  1.24591  1.62042
1989  0.51  5.2477  -4.20393
1990  1.44  2.95585  -1.29689
1991  2.69  3.72199  -0.585589
1992  3  1.92241  0.802566
1993  5.69  6.67856  -0.288889
1994  1.07  3.95232  -2.35638
1995  2.93  4.67479  -0.842508
1996  5.1  6.08226  -0.317641
1997  8.25  4.29172  1.17856
1998  5.8  4.1197  0.616896
1999  6.12  5.09085  0.332033
2000  3.91  3.80938  0.0470178
2001  3.32  4.59111  -0.584579
2002  9.11  4.18655  1.40212
2003  5.61  4.47599  0.407246
2004  6.27  2.66277  1.54444
2005  5.99  4.20991  0.635963
2006  5.74  2.01355  1.88915
index number 30
units = 2
month = 1
starting and ending ages for selectivity = 3  3
selectivity choice = -1
 year, obs index, pred index, standardized residual
1988  1.03  1.4517  -0.618874
1989  0.18  0.0768516  1.53483
1990  0.11  0.800258  -3.57873
1991  0.27  0.51882  -1.17785
1992  0.57  0.434553  0.489289
1993  0.2  0.0949523  1.34342
1994  0.08  1.35045  -5.09667
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1995  0.28  0.835558  -1.97166
1996  2.7  1.68458  0.850725
1997  5.25  2.17877  1.58601
1998  2.67  1.61471  0.906968
1999  3.46  1.54814  1.45031
2000  1.82  1.77217  0.0480312
2001  1.18  1.37698  -0.278398
2002  4.13  1.77137  1.52661
2003  2.55  1.6574  0.776975
2004  2.49  1.74497  0.641184
2005  1.24  1.03704  0.322346
2006  3.22  1.61405  1.24548
index number 31
units = 2
month = 1
starting and ending ages for selectivity = 4  4
selectivity choice = -1
 year, obs index, pred index, standardized residual
1990  0.03  0.0110983  1.7933
1991  0.02  0.17312  -3.89216
1992  0.06  0.0708049  -0.298611
1993  0.01  0.0266437  -1.76726
1995  0.05  0.267202  -3.02244
1996  0.18  0.116353  0.786872
1997  1.02  0.273092  2.37641
1998  0.29  0.501984  -0.989493
1999  0.65  0.374471  0.994489
2000  0.45  0.401163  0.207172
2001  0.41  0.432855  -0.0978247
2002  1.28  0.371208  2.23232
2003  0.57  0.519819  0.166191
2004  0.57  0.489403  0.274926
2005  0.53  0.485701  0.157406
2006  0.48  0.263917  1.0787
index number 32
units = 2
month = 1
starting and ending ages for selectivity = 5  8
selectivity choice = -1
 year, obs index, pred index, standardized residual
1992  0.02  0.0778932  -2.45189
1993  0.01  0.0144267  -0.660934
1994  0.02  0.0180397  0.186033
1995  0.16  0.0134083  4.47114
1996  0.05  0.0807727  -0.864931
1997  0.18  0.0426526  2.59664
1998  0.04  0.172724  -2.63802
1999  0.18  0.322132  -1.04958
2000  0.22  0.292009  -0.510643
2001  0.15  0.280508  -1.12886
2002  0.81  0.353635  1.49459
2003  0.51  0.32  0.840538
2004  0.43  0.455699  -0.104681
2005  0.32  0.396812  -0.387983
2006  0.4  0.35631  0.208584
index number 33
units = 2
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month = 1
starting and ending ages for selectivity = 1  1
selectivity choice = -1
 year, obs index, pred index, standardized residual
1985  0.24  0.105105  1.48902
1986  0.172  0.146459  0.289887
1987  0.075  0.0205409  2.33551
1988  0.015  0.0938963  -3.30766
1990  0.032  0.0547498  -0.968484
1991  0.036  0.0338879  0.109033
1992  0.013  0.105233  -3.77128
1993  0.084  0.0607116  0.585527
1994  0.132  0.069827  1.14836
1995  0.023  0.0768581  -2.17572
1996  0.069  0.0542471  0.433816
1997  0.033  0.0519164  -0.817161
1999  0.044  0.0479008  -0.153185
2000  0.012  0.0579012  -2.83822
2001  0.021  0.0527185  -1.65991
2002  0.442  0.0561757  3.72007
2004  0.255  0.052937  2.83521
2005  0.067  0.025363  1.75181
2006  0.098  0.0564932  0.993388
index number 34
units = 2
month = 1
starting and ending ages for selectivity = 1  1
selectivity choice = -1
 year, obs index, pred index, standardized residual
1982  2.27  2.80526  -0.381808
1983  5.01  2.99392  0.928475
1984  1.58  0.838443  1.14269
1985  1.26  1.62622  -0.460128
1986  1.26  2.26607  -1.05847
1987  0.39  0.317815  0.369112
1988  0.54  1.45279  -1.78476
1989  1.24  0.649391  1.16649
1990  2.54  0.847106  1.98028
1991  2.64  0.524325  2.91503
1992  0.89  1.62819  -1.08925
1993  0.5  0.939349  -1.13718
1994  2.41  1.08039  1.44687
1995  0.63  1.18917  -1.14568
1996  0.81  0.839329  -0.0641447
1997  0.89  0.803267  0.184908
1998  0.73  0.992804  -0.55452
1999  0.53  0.741137  -0.604691
2000  0.57  0.895866  -0.815408
2001  0.47  0.815677  -0.994181
2002  0.77  0.869169  -0.218475
2003  0.44  0.517397  -0.292214
2004  1.3  0.819058  0.8331
2005  0.35  0.392425  -0.206327
2006  0.8  0.874082  -0.159712
index number 35
units = 2
month = 1
```

```
starting and ending ages for selectivity = 1  1
selectivity choice = -1
 year, obs index, pred index, standardized residual
1982  3.408  23.7576  -3.50177
1983  17.699  25.3553  -0.648281
1984  13.31  7.10071  1.1331
1985  12.843  13.7723  -0.125991
1986  59.526  19.1912  2.04136
1987  7.584  2.69155  1.86817
1988  1.763  12.3036  -3.50375
1989  2.855  5.49965  -1.18232
1990  4.733  7.17408  -0.750056
1991  7.337  4.44047  0.905604
1992  8.487  13.7891  -0.875254
1993  4.145  7.95528  -1.17569
1994  22.311  9.14972  1.60746
1995  13.067  10.071  0.469651
1996  6.493  7.10822  -0.163256
1997  7.997  6.80281  0.291662
1998  14.983  8.40798  1.04188
1999  8.565  6.27664  0.560581
2000  9.874  7.58702  0.47513
2001  13.543  6.90791  1.21404
2002  5.406  7.36093  -0.556663
2003  8.18  4.3818  1.12573
2004  6.993  6.93654  0.0146185
2005  2.198  3.32342  -0.745601
2006  9.658  7.40254  0.479635
index number 36
units = 2
month = 1
starting and ending ages for selectivity = 1  1
selectivity choice = -1
 year, obs index, pred index, standardized residual
1988  0.17  1.96287  -4.41174
1989  1  0.877393  0.235884
1990  1.28  1.14453  0.201744
1991  1  0.708416  0.621669
1992  1.1  2.19985  -1.24989
1993  2.55  1.26916  1.2583
1994  1.66  1.45971  0.231878
1995  4.95  1.60669  2.02919
1996  1.66  1.13402  0.68718
1997  1.65  1.08529  0.75548
1998  0.67  1.34138  -1.25186
1999  1.03  1.00135  0.0508711
2000  0.95  1.21041  -0.436867
2001  0.62  1.10206  -1.03734
2002  1.51  1.17433  0.453385
2003  0.6  0.699056  -0.275559
2004  0.9  1.10663  -0.372723
2005  3.11  0.530205  3.19039
2006  0.81  1.18097  -0.679983
index number 37
units = 2
month = 1
starting and ending ages for selectivity = 1  1
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selectivity choice = -1
 year, obs index, pred index, standardized residual
1982  0.55  0.81409  -0.707202
1983  0.96  0.86884  0.179932
1984  0.18  0.243317  -0.543555
1985  0.59  0.471931  0.402678
1986  0.39  0.657615  -0.94222
1987  0.07  0.0922302  -0.49736
1988  0.06  0.421603  -3.51609
1989  0.31  0.188454  0.897577
1990  0.44  0.245831  1.0498
1991  0.76  0.15216  2.90054
1992  0.99  0.472504  1.33389
1993  0.23  0.2726  -0.306444
1994  0.75  0.313529  1.57288
1995  0.93  0.345099  1.78779
1996  0.11  0.243574  -1.43359
1997  0.17  0.233109  -0.569342
1998  0.38  0.288113  0.499212
1999  0.21  0.215079  -0.0430957
2000  0.22  0.259981  -0.301133
2001  0.12  0.23671  -1.22512
2002  0.06  0.252234  -2.58968
2003  0.18  0.150149  0.327002
2004  0.36  0.237691  0.74864
2005  0.16  0.113882  0.61317
2006  0.31  0.25366  0.361722
index number 38
units = 2
month = 1
starting and ending ages for selectivity = 1  1
selectivity choice = -1
 year, obs index, pred index, standardized residual
1986  0.32  0.447973  -0.606679
1987  0.26  0.0628279  2.56131
1988  0.01  0.287199  -6.05502
1989  0.14  0.128376  0.156311
1990  0.36  0.167462  1.38021
1991  0.38  0.103652  2.34283
1992  0.37  0.321873  0.251293
1993  0.05  0.185697  -2.36621
1994  0.57  0.213579  1.77026
1995  0.3  0.235084  0.439733
1996  0.08  0.165925  -1.31558
1997  0.22  0.158796  0.58792
1998  0.39  0.196265  1.23835
1999  0.35  0.146513  1.57042
2000  0.21  0.177101  0.307271
2001  0.14  0.161249  -0.254832
2002  0.13  0.171824  -0.503025
2003  0.21  0.102283  1.29729
2004  0.27  0.161917  0.922136
2005  0.01  0.0775773  -3.69458
2006  0.17  0.172795  -0.0294071
index number 39
units = 2
month = 1
```

```
starting and ending ages for selectivity = 1  1
selectivity choice = -1
 year, obs index, pred index, standardized residual
1990  0.02  0.0325733  -0.879617
1992  0.01  0.0626079  -3.30796
1993  0.01  0.0361202  -2.31603
1994  0.04  0.0415434  -0.0682761
1995  0.03  0.0457265  -0.760093
1996  0.02  0.0322742  -0.862985
1997  0.04  0.0308875  0.466223
1999  0.03  0.0284985  0.092597
2000  0.09  0.0344482  1.73189
2001  0.01  0.0313647  -2.06145
2002  0.11  0.0334216  2.14833
2003  0.05  0.0198952  1.6619
2004  0.1  0.0314947  2.08354
2005  0.04  0.0150897  1.75806
2006  0.04  0.0336105  0.313861

Input and Estimated effective sample sizes for index 1
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 2
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 3
1992  0  0
1993  0  0
1994  0  0
```

```
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 4
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 5
1992  0  0
1993  0  0
1994  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 6
1982  0  0
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1991  0  0
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1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 7
1982  0  0
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1991  0  0
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1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 8
1982  0  0
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1992  0  0
1993  0  0
1994  0  0
1995  0  0
```

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1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 9
1982  0  0
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1991  0  0
1994  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 10
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1992  0  0
1995  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 11
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
```

```
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 12
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
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1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 13
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1991  0  0
1993  0  0
1994  0  0
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1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 14
1982  0  0
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
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1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 15
1982  0  0
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
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1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 16
1982  0  0
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 17
1982  0  0
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
1994  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
```

```
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 18
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 19
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
1993  0  0
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1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 20
1985  0  0
1986  0  0
1987  0  0
```

```
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 21
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
1993  0  0
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1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 22
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
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1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 23
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
1993  0  0
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1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 24
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
```

```
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 25
1982  0  0
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1991  0  0
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1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 26
1982  0  0
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
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1993  0  0
1994  0  0
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1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 27
1990  0  0
1991  0  0
1992  0  0
1993  0  0
1994  0  0
```

```
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 28
1990  0  0
1991  0  0
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 29
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 30
1988  0  0
1989  0  0
1990  0  0
```

```
1991  0  0
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 31
1990  0  0
1991  0  0
1992  0  0
1993  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 32
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 33
1985  0  0
1986  0  0
1987  0  0
1988  0  0
```

```
1990  0  0
1991  0  0
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 34
1982  0  0
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
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1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 35
1982  0  0
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
1993  0  0
1994  0  0
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1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 36
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 37
1982  0  0
1983  0  0
1984  0  0
1985  0  0
1986  0  0
1987  0  0
1988  0  0
1989  0  0
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1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
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2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 38
1986  0  0
1987  0  0
1988  0  0
1989  0  0
1990  0  0
1991  0  0
1992  0  0
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1994  0  0
1995  0  0
1996  0  0
1997  0  0
1998  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0
Input and Estimated effective sample sizes for index 39
1990  0  0
1992  0  0
1993  0  0
1994  0  0
1995  0  0
1996  0  0
1997  0  0
1999  0  0
2000  0  0
2001  0  0
2002  0  0
2003  0  0
2004  0  0
2005  0  0
2006  0  0
 Total  0  0

Survey proportions at age by index
 Index number 1
 N/A
 Index number 2
 N/A
 Index number 3
 N/A
 Index number 4
 N/A
 Index number 5
 N/A
 Index number 6
```

```
N/A
Index number 7
N/A
Index number 8
N/A
Index number 9
N/A
Index number 10
N/A
Index number 11
N/A
Index number 12
N/A
Index number 13
N/A
Index number 14
N/A
Index number 15
N/A
Index number 16
N/A
Index number 17
N/A
Index number 18
N/A
Index number 19
N/A
Index number 20
N/A
Index number 21
N/A
Index number 22
N/A
Index number 23
N/A
Index number 24
N/A
Index number 25
N/A
Index number 26
N/A
Index number 27
N/A
Index number 28
N/A
Index number 29
N/A
Index number 30
N/A
Index number 31
N/A
Index number 32
N/A
Index number 33
N/A
Index number 34
N/A
```

```
 Index number 35
 N/A
 Index number 36
 N/A
 Index number 37
 N/A
 Index number 38
 N/A
 Index number 39
 N/A

Index Selectivity at Age
 0 1 0 0 0 0 0 0
 0 0 1 0 0 0 0 0
 0 0 0 1 0 0 0 0
 0 0 0 0 1 0 0 0
 0 0 0 0 0 1 1 1
 0 1 0 0 0 0 0 0
 0 0 1 0 0 0 0 0
 0 0 0 1 0 0 0 0
 0 0 0 0 1 0 0 0
 0 0 0 0 0 1 1 1
 0 0 1 0 0 0 0 0
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 0 0 0 1 0 0 0 0
 0 0 0 1 0 0 0 0
 0 0 0 0 1 0 0 0
 0 0 1 0 0 0 0 0
 0 0 0 1 0 0 0 0
 0 0 0 0 1 0 0 0
 0 0 1 0 0 0 0 0
 0 0 0 1 0 0 0 0
 0 0 0 0 1 0 0 0
 0 0 0 0 0 1 1 1
 0 0 0 1 0 0 0 0
 0 0 0 0 1 0 0 0
 0 1 0 0 0 0 0 0
 0 0 1 0 0 0 0 0
 0 1 0 0 0 0 0 0
 0 0 1 0 0 0 0 0
 0 0 0 1 0 0 0 0
 0 0 0 0 1 0 0 0
 1 0 0 0 0 0 0 0
 1 0 0 0 0 0 0 0
 1 0 0 0 0 0 0 0
 1 0 0 0 0 0 0 0
 1 0 0 0 0 0 0 0
 1 0 0 0 0 0 0 0
 1 0 0 0 0 0 0 0

Deviations section: only applicable if associated lambda > 0
Nyear1 observed, expected, standardized residual
2  141.934  9935.01  -5.51549
3  66.7132  3069.19  -4.97064
4  194.838  922.91  -2.01923
```

```
5  11323.2  281.933  4.7943
6  1.87289  87.1656  -4.98564
7  2.45433  27.1575  -3.1207
8  4.12177  12.3833  -1.42815

Fleet Obs, Initial, and Stadardized Residual for Fmult
1  0.521288  0.5  0.054129
2  0.187429  0.2  -0.0842775
3  3.05902e-07  0.05  -15.5843
4  3.05902e-07  0.05  -15.5843
5  0.248121  0.2  0.279897
6  0.0552852  0.05  0.130449

Standardized Residuals for Fmult_devs by fleet and year
N/A

Index Obs, Initial, and Standardized Residual for q_year1
N/A

Standardized Residuals for catchability deviations by index and year
 index 1 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
 index 2 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
 index 3 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
```

```
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
 index 4 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
 index 5 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
 index 6 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
```

```
21  0
22  0
23  0
24  0
25  0
 index 7 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
23  0
24  0
25  0
 index 8 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
23  0
24  0
 index 9 q_devs standardized residuals
2  0
3  0
```

```
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
 index 10 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
 index 11 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
23  0
24  0
 index 12 q_devs standardized residuals
```

```
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
23  0
24  0
 index 13 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
 index 14 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
```

```
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
23  0
24  0
25  0
 index 15 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
23  0
24  0
25  0
 index 16 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
```

```
20  0
21  0
22  0
23  0
24  0
 index 17 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
 index 18 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
23  0
 index 19 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
```

```
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
23  0
 index 20 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
 index 21 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
```

```
20  0
21  0
22  0
 index 22 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
 index 23 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
 index 24 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
```

```
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
 index 25 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
23  0
24  0
25  0
 index 26 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
```

```
 index 27 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
 index 28 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
 index 29 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
 index 30 q_devs standardized residuals
2  0
3  0
4  0
```

```
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
 index 31 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
 index 32 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
 index 33 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
```

```
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
 index 34 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
23  0
24  0
25  0
 index 35 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
23  0
24  0
```

```
25  0
 index 36 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
 index 37 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
22  0
23  0
24  0
25  0
 index 38 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
```

```
13  0
14  0
15  0
16  0
17  0
18  0
19  0
20  0
21  0
 index 39 q_devs standardized residuals
2  0
3  0
4  0
5  0
6  0
7  0
8  0
9  0
10  0
11  0
12  0
13  0
14  0
15  0

Obs, Initial, and Stadardized Residual for SRR steepness
N/A

Obs, Initial, and Stadardized Residual for SRR unexpl S
N/A

End of Deviations Section

Selectivity by age and year for each fleet
 fleet 1 selectivity at age
 0.00580595 0.928253 0.999965 1 1 1 1 1
 0.00580595 0.928253 0.999965 1 1 1 1 1
 0.00580595 0.928253 0.999965 1 1 1 1 1
 0.00580595 0.928253 0.999965 1 1 1 1 1
 0.00580595 0.928253 0.999965 1 1 1 1 1
 0.00580595 0.928253 0.999965 1 1 1 1 1
 0.00580595 0.928253 0.999965 1 1 1 1 1
 0.00580595 0.928253 0.999965 1 1 1 1 1
 0.00580595 0.928253 0.999965 1 1 1 1 1
 0.00580595 0.928253 0.999965 1 1 1 1 1
 0.00580595 0.928253 0.999965 1 1 1 1 1
 0.00580595 0.928253 0.999965 1 1 1 1 1
 0.00580595 0.928253 0.999965 1 1 1 1 1
 0.00373551 0.0887332 0.716613 0.985001 0.999414 0.999977 0.999999 1
 0.00373551 0.0887332 0.716613 0.985001 0.999414 0.999977 0.999999 1
 0.00373551 0.0887332 0.716613 0.985001 0.999414 0.999977 0.999999 1
 0.00373551 0.0887332 0.716613 0.985001 0.999414 0.999977 0.999999 1
 0.00373551 0.0887332 0.716613 0.985001 0.999414 0.999977 0.999999 1
 0.00373551 0.0887332 0.716613 0.985001 0.999414 0.999977 0.999999 1
 0.00373551 0.0887332 0.716613 0.985001 0.999414 0.999977 0.999999 1
 0.00373551 0.0887332 0.716613 0.985001 0.999414 0.999977 0.999999 1
 0.00373551 0.0887332 0.716613 0.985001 0.999414 0.999977 0.999999 1
```

```
0.00373551 0.0887332 0.716613 0.985001 0.999414 0.999977 0.999999 1
0.00373551 0.0887332 0.716613 0.985001 0.999414 0.999977 0.999999 1
0.00373551 0.0887332 0.716613 0.985001 0.999414 0.999977 0.999999 1
fleet 2 selectivity at age
0.0887848 1 1 1 1 1 1 1
0.0887848 1 1 1 1 1 1 1
0.0887848 1 1 1 1 1 1 1
0.0887848 1 1 1 1 1 1 1
0.0887848 1 1 1 1 1 1 1
0.0887848 1 1 1 1 1 1 1
0.0887848 1 1 1 1 1 1 1
0.0887848 1 1 1 1 1 1 1
0.0887848 1 1 1 1 1 1 1
0.0887848 1 1 1 1 1 1 1
0.0887848 1 1 1 1 1 1 1
0.0887848 1 1 1 1 1 1 1
0.0887848 1 1 1 1 1 1 1
0.00249365 0.0434757 0.452471 0.937598 0.996353 0.999799 0.99999 1
0.00249365 0.0434757 0.452471 0.937598 0.996353 0.999799 0.99999 1
0.00249365 0.0434757 0.452471 0.937598 0.996353 0.999799 0.99999 1
0.00249365 0.0434757 0.452471 0.937598 0.996353 0.999799 0.99999 1
0.00249365 0.0434757 0.452471 0.937598 0.996353 0.999799 0.99999 1
0.00249365 0.0434757 0.452471 0.937598 0.996353 0.999799 0.99999 1
0.00249365 0.0434757 0.452471 0.937598 0.996353 0.999799 0.99999 1
0.00249365 0.0434757 0.452471 0.937598 0.996353 0.999799 0.99999 1
0.00249365 0.0434757 0.452471 0.937598 0.996353 0.999799 0.99999 1
0.00249365 0.0434757 0.452471 0.937598 0.996353 0.999799 0.99999 1
0.00249365 0.0434757 0.452471 0.937598 0.996353 0.999799 0.99999 1
0.00249365 0.0434757 0.452471 0.937598 0.996353 0.999799 0.99999 1
fleet 3 selectivity at age
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
0.000178184 1 0.0307623 0.0178024 0.000258322 0.1 0.05 0.01
fleet 4 selectivity at age
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
```

```
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
9.71564e-05 0.00779516 1 0.0220854 0.000264039 0.1 0.05 0.01
fleet 5 selectivity at age
0.944672 0.999709 0.999999 1 1 1 1 1
0.944672 0.999709 0.999999 1 1 1 1 1
0.944672 0.999709 0.999999 1 1 1 1 1
0.944672 0.999709 0.999999 1 1 1 1 1
0.944672 0.999709 0.999999 1 1 1 1 1
0.944672 0.999709 0.999999 1 1 1 1 1
0.944672 0.999709 0.999999 1 1 1 1 1
0.944672 0.999709 0.999999 1 1 1 1 1
0.944672 0.999709 0.999999 1 1 1 1 1
0.944672 0.999709 0.999999 1 1 1 1 1
0.944672 0.999709 0.999999 1 1 1 1 1
0.944672 0.999709 0.999999 1 1 1 1 1
0.944672 0.999709 0.999999 1 1 1 1 1
0.0173609 0.213751 0.807073 0.984703 0.998992 0.999935 0.999996 1
0.0173609 0.213751 0.807073 0.984703 0.998992 0.999935 0.999996 1
0.0173609 0.213751 0.807073 0.984703 0.998992 0.999935 0.999996 1
0.0173609 0.213751 0.807073 0.984703 0.998992 0.999935 0.999996 1
0.0173609 0.213751 0.807073 0.984703 0.998992 0.999935 0.999996 1
0.0173609 0.213751 0.807073 0.984703 0.998992 0.999935 0.999996 1
0.0173609 0.213751 0.807073 0.984703 0.998992 0.999935 0.999996 1
0.0173609 0.213751 0.807073 0.984703 0.998992 0.999935 0.999996 1
0.0173609 0.213751 0.807073 0.984703 0.998992 0.999935 0.999996 1
0.0173609 0.213751 0.807073 0.984703 0.998992 0.999935 0.999996 1
0.0173609 0.213751 0.807073 0.984703 0.998992 0.999935 0.999996 1
0.0173609 0.213751 0.807073 0.984703 0.998992 0.999935 0.999996 1
fleet 6 selectivity at age
0.0625968 1 0.81068 0.525004 0.307883 0.16855 0.0884957 0.0453967
0.0625968 1 0.81068 0.525004 0.307883 0.16855 0.0884957 0.0453967
0.0625968 1 0.81068 0.525004 0.307883 0.16855 0.0884957 0.0453967
0.0625968 1 0.81068 0.525004 0.307883 0.16855 0.0884957 0.0453967
0.0625968 1 0.81068 0.525004 0.307883 0.16855 0.0884957 0.0453967
0.0625968 1 0.81068 0.525004 0.307883 0.16855 0.0884957 0.0453967
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 0.0625968 1 0.81068 0.525004 0.307883 0.16855 0.0884957 0.0453967
 0.0625968 1 0.81068 0.525004 0.307883 0.16855 0.0884957 0.0453967
 0.0625968 1 0.81068 0.525004 0.307883 0.16855 0.0884957 0.0453967
 0.0625968 1 0.81068 0.525004 0.307883 0.16855 0.0884957 0.0453967
 0.0625968 1 0.81068 0.525004 0.307883 0.16855 0.0884957 0.0453967
 0.0625968 1 0.81068 0.525004 0.307883 0.16855 0.0884957 0.0453967
 0.0625968 1 0.81068 0.525004 0.307883 0.16855 0.0884957 0.0453967
 0.0747722 0.788501 1 0.424348 0.122107 0.0306687 0.00742106 0.0017792
 0.0747722 0.788501 1 0.424348 0.122107 0.0306687 0.00742106 0.0017792
 0.0747722 0.788501 1 0.424348 0.122107 0.0306687 0.00742106 0.0017792
 0.0747722 0.788501 1 0.424348 0.122107 0.0306687 0.00742106 0.0017792
 0.0747722 0.788501 1 0.424348 0.122107 0.0306687 0.00742106 0.0017792
 0.0747722 0.788501 1 0.424348 0.122107 0.0306687 0.00742106 0.0017792
 0.0747722 0.788501 1 0.424348 0.122107 0.0306687 0.00742106 0.0017792
 0.0747722 0.788501 1 0.424348 0.122107 0.0306687 0.00742106 0.0017792
 0.0747722 0.788501 1 0.424348 0.122107 0.0306687 0.00742106 0.0017792
 0.0747722 0.788501 1 0.424348 0.122107 0.0306687 0.00742106 0.0017792
 0.0747722 0.788501 1 0.424348 0.122107 0.0306687 0.00742106 0.0017792
 0.0747722 0.788501 1 0.424348 0.122107 0.0306687 0.00742106 0.0017792

Fmult by year for each fleet
1982   0.521288 0.187429 3.05902e-07 3.05902e-07 0.248121 0.0552852
1983   0.507254 0.153069 9.56217e-14 1.15974e-12 0.318157 0.0221546
1984   0.522591 0.243205 4.88672e-20 4.60164e-19 0.302538 0.0207659
1985   0.891369 0.283309 1.8385e-26 4.06515e-23 0.227198 0.00873151
1986   0.746492 0.182684 5.21989e-20 2.9986e-26 0.288395 0.0472542
1987   0.583673 0.129808 3.53759e-14 2.29538e-20 0.277598 0.0328753
1988   1.30802 0.364014 1.3973e-08 3.08436e-23 0.33606 0.0588706
1989   0.751535 0.206242 0.045678 4.76305e-27 0.113104 0.00527246
1990   0.353189 0.128993 0.283615 2.41906e-24 0.158637 0.0282064
1991   0.557866 0.177547 0.238097 4.57774e-19 0.342331 0.0592459
1992   1.43186 0.210601 0.360393 9.02557e-15 0.213568 0.0815981
1993   0.361877 0.0986608 0.074113 1.82601e-08 0.204377 0.0727248
1994   0.372171 0.109749 0.0571846 0.0596927 0.174909 0.0535003
1995   0.791324 0.436711 0.0120782 0.0507991 0.302837 0.0526683
1996   0.524364 0.363901 0.0252194 0.0183976 0.450205 0.037968
1997   0.291674 0.082763 0.0257921 0.0087838 0.400259 0.0303182
1998   0.273095 0.123019 0.0264536 0.0180271 0.360747 0.0414856
1999   0.231846 0.0993108 0.134573 0.0525124 0.222679 0.0444391
2000   0.195536 0.100028 0.063258 0.0146137 0.367851 0.0521789
2001   0.186493 0.0748835 0.0188333 0.0285521 0.238559 0.0631401
2002   0.211614 0.0976813 0.029474 0.0134594 0.148385 0.0375068
2003   0.183317 0.070289 0.0389514 0.00798759 0.184645 0.0398903
2004   0.236922 0.098403 0.0236614 0.00722162 0.177337 0.0549689
2005   0.293224 0.100784 0.0170709 0.0134306 0.215437 0.0663781
2006   0.230658 0.105227 0.0452286 0.00867249 0.240913 0.0585164

Directed F by age and year for each fleet
 fleet 1 directed F at age
 0.00302657 0.483887 0.52127 0.521288 0.521288 0.521288 0.521288 0.521288
 0.00294509 0.47086 0.507237 0.507254 0.507254 0.507254 0.507254 0.507254
 0.00303414 0.485096 0.522572 0.522591 0.522591 0.522591 0.522591 0.522591
 0.00517525 0.827416 0.891338 0.891369 0.891369 0.891369 0.891369 0.891369
 0.0043341 0.692934 0.746466 0.746492 0.746492 0.746492 0.746492 0.746492
 0.00338878 0.541796 0.583652 0.583673 0.583673 0.583673 0.583673 0.583673
 0.00759427 1.21417 1.30797 1.30802 1.30802 1.30802 1.30802 1.30802
 0.00436338 0.697615 0.751509 0.751535 0.751535 0.751535 0.751535 0.751535
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 0.0020506 0.327849 0.353177 0.353189 0.353189 0.353189 0.353189 0.353189
 0.00323894 0.517841 0.557847 0.557866 0.557866 0.557866 0.557866 0.557866
 0.00831332 1.32913 1.43181 1.43186 1.43186 1.43186 1.43186 1.43186
 0.00210104 0.335914 0.361865 0.361877 0.361877 0.361877 0.361877 0.361877
 0.0021608 0.345468 0.372158 0.372171 0.372171 0.372171 0.372171 0.372171
 0.002956 0.0702167 0.567073 0.779455 0.79086 0.791306 0.791323 0.791324
 0.00195877 0.0465285 0.375766 0.516499 0.524057 0.524352 0.524364 0.524364
 0.00108955 0.0258811 0.209017 0.287299 0.291503 0.291667 0.291673 0.291674
 0.00102015 0.0242326 0.195703 0.268999 0.272935 0.273089 0.273095 0.273095
 0.000866064 0.0205724 0.166144 0.228368 0.23171 0.231841 0.231846 0.231846
 0.000730428 0.0173505 0.140124 0.192603 0.195422 0.195532 0.195536 0.195536
 0.000696646 0.0165481 0.133643 0.183695 0.186383 0.186488 0.186493 0.186493
 0.000790488 0.0187772 0.151646 0.20844 0.21149 0.21161 0.211614 0.211614
 0.000684782 0.0162663 0.131367 0.180567 0.183209 0.183313 0.183317 0.183317
 0.000885027 0.0210229 0.169782 0.233369 0.236783 0.236917 0.236922 0.236922
 0.00109534 0.0260187 0.210128 0.288825 0.293052 0.293217 0.293223 0.293224
 0.000861628 0.0204671 0.165293 0.227199 0.230523 0.230653 0.230658 0.230658
 fleet 2 directed F at age
 0.0166409 0.187429 0.187429 0.187429 0.187429 0.187429 0.187429 0.187429
 0.0135902 0.153069 0.153069 0.153069 0.153069 0.153069 0.153069 0.153069
 0.0215929 0.243205 0.243205 0.243205 0.243205 0.243205 0.243205 0.243205
 0.0251535 0.283309 0.283309 0.283309 0.283309 0.283309 0.283309 0.283309
 0.0162196 0.182684 0.182684 0.182684 0.182684 0.182684 0.182684 0.182684
 0.011525 0.129808 0.129808 0.129808 0.129808 0.129808 0.129808 0.129808
 0.0323189 0.364014 0.364014 0.364014 0.364014 0.364014 0.364014 0.364014
 0.0183112 0.206242 0.206242 0.206242 0.206242 0.206242 0.206242 0.206242
 0.0114526 0.128993 0.128993 0.128993 0.128993 0.128993 0.128993 0.128993
 0.0157635 0.177547 0.177547 0.177547 0.177547 0.177547 0.177547 0.177547
 0.0186981 0.210601 0.210601 0.210601 0.210601 0.210601 0.210601 0.210601
 0.00875958 0.0986608 0.0986608 0.0986608 0.0986608 0.0986608 0.0986608
0.0986608
 0.00974404 0.109749 0.109749 0.109749 0.109749 0.109749 0.109749 0.109749
 0.001089 0.0189863 0.197599 0.409459 0.435119 0.436623 0.436707 0.436711
 0.000907441 0.0158209 0.164655 0.341193 0.362574 0.363828 0.363897 0.363901
 0.000206382 0.00359818 0.0374478 0.0775984 0.0824612 0.0827464 0.0827621
0.082763
 0.000306766 0.00534835 0.0556626 0.115343 0.122571 0.122995 0.123018
0.123019
 0.000247646 0.00431761 0.0449352 0.0931136 0.0989487 0.0992909 0.0993098
0.0993108
 0.000249436 0.00434881 0.0452599 0.0937865 0.0996637 0.100008 0.100027
0.100028
 0.000186733 0.00325561 0.0338826 0.0702106 0.0746104 0.0748684 0.0748827
0.0748835
 0.000243583 0.00424677 0.0441979 0.0915858 0.0973251 0.0976617 0.0976803
0.0976813
 0.000175276 0.00305586 0.0318037 0.0659028 0.0700326 0.0702749 0.0702882
0.070289
 0.000245382 0.00427814 0.0445245 0.0922625 0.0980442 0.0983833 0.098402
0.098403
 0.000251319 0.00438164 0.0456016 0.0944946 0.100416 0.100763 0.100783
0.100784
 0.0002624 0.00457484 0.0476123 0.0986611 0.104844 0.105206 0.105226 0.105227
 fleet 3 directed F at age
 5.45068e-11 3.05902e-07 9.41026e-09 5.4458e-09 7.90214e-11 3.05902e-08
1.52951e-08 3.05902e-09
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1.70382e-17 9.56217e-14 2.94154e-15 1.7023e-15 2.47012e-17 9.56217e-15
4.78108e-15 9.56217e-16
8.70734e-24 4.88672e-20 1.50327e-21 8.69954e-22 1.26235e-23 4.88672e-21
2.44336e-21 4.88672e-22
3.27591e-30 1.8385e-26 5.65565e-28 3.27297e-28 4.74926e-30 1.8385e-27
9.1925e-28 1.8385e-28
9.30099e-24 5.21989e-20 1.60576e-21 9.29266e-22 1.34841e-23 5.21989e-21
2.60995e-21 5.21989e-22
6.30341e-18 3.53759e-14 1.08825e-15 6.29777e-16 9.13839e-18 3.53759e-15
1.7688e-15 3.53759e-16
2.48976e-12 1.3973e-08 4.29842e-10 2.48753e-10 3.60954e-12 1.3973e-09
6.9865e-10 1.3973e-10
8.13907e-06 0.045678 0.00140516 0.000813178 1.17996e-05 0.0045678 0.0022839
0.00045678
5.05355e-05 0.283615 0.00872465 0.00504903 7.3264e-05 0.0283615 0.0141807
0.00283615
4.2425e-05 0.238097 0.00732442 0.0042387 6.15058e-05 0.0238097 0.0119049
0.00238097
6.42161e-05 0.360393 0.0110865 0.00641586 9.30975e-05 0.0360393 0.0180197
0.00360393
1.32057e-05 0.074113 0.00227989 0.00131939 1.9145e-05 0.0074113 0.00370565
0.00074113
1.01894e-05 0.0571846 0.00175913 0.00101802 1.47721e-05 0.00571846
0.00285923 0.000571846
2.15214e-06 0.0120782 0.000371555 0.000215022 3.12008e-06 0.00120782
0.000603912 0.000120782
4.49369e-06 0.0252194 0.000775807 0.000448966 6.51474e-06 0.00252194
0.00126097 0.000252194
4.59572e-06 0.0257921 0.000793424 0.000459161 6.66267e-06 0.00257921
0.0012896 0.000257921
4.7136e-06 0.0264536 0.000813774 0.000470938 6.83356e-06 0.00264536
0.00132268 0.000264536
2.39787e-05 0.134573 0.00413978 0.00239572 3.47632e-05 0.0134573 0.00672865
0.00134573
1.12715e-05 0.063258 0.00194596 0.00112615 1.6341e-05 0.0063258 0.0031629
0.00063258
3.35578e-06 0.0188333 0.000579356 0.000335278 4.86506e-06 0.00188333
0.000941665 0.000188333
5.25178e-06 0.029474 0.000906688 0.000524708 7.61379e-06 0.0029474 0.0014737
0.00029474
6.94051e-06 0.0389514 0.00119824 0.000693429 1.0062e-05 0.00389514
0.00194757 0.000389514
4.21607e-06 0.0236614 0.000727878 0.000421229 6.11226e-06 0.00236614
0.00118307 0.000236614
3.04176e-06 0.0170709 0.000525141 0.000303904 4.4098e-06 0.00170709
0.000853547 0.000170709
8.05899e-06 0.0452286 0.00139134 0.000805178 1.16836e-05 0.00452286
0.00226143 0.000452286
fleet 4 directed F at age
2.97204e-11 2.38456e-09 3.05902e-07 6.75599e-09 8.07701e-11 3.05902e-08
1.52951e-08 3.05902e-09
1.12676e-16 9.04037e-15 1.15974e-12 2.56134e-14 3.06217e-16 1.15974e-13
5.79871e-14 1.15974e-14
4.47079e-23 3.58705e-21 4.60164e-19 1.01629e-20 1.21501e-22 4.60164e-20
2.30082e-20 4.60164e-21
3.94956e-27 3.16885e-25 4.06515e-23 8.97807e-25 1.07336e-26 4.06515e-24
2.03258e-24 4.06515e-25

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 2.91334e-30 2.33746e-28 2.9986e-26 6.62255e-28 7.91748e-30 2.9986e-27
1.4993e-27 2.9986e-28
 2.23011e-24 1.78929e-22 2.29538e-20 5.06945e-22 6.06069e-24 2.29538e-21
1.14769e-21 2.29538e-22
 2.99665e-27 2.4043e-25 3.08436e-23 6.81194e-25 8.14389e-27 3.08436e-24
1.54218e-24 3.08436e-25
 4.62761e-31 3.71287e-29 4.76305e-27 1.05194e-28 1.25763e-30 4.76305e-28
2.38152e-28 4.76305e-29
 2.35027e-28 1.8857e-26 2.41906e-24 5.3426e-26 6.38725e-28 2.41906e-25
1.20953e-25 2.41906e-26
 4.44757e-23 3.56842e-21 4.57774e-19 1.01101e-20 1.2087e-22 4.57774e-20
2.28887e-20 4.57774e-21
 8.76892e-19 7.03557e-17 9.02557e-15 1.99334e-16 2.3831e-18 9.02557e-16
4.51278e-16 9.02557e-17
 1.77409e-12 1.42341e-10 1.82601e-08 4.03283e-10 4.82138e-12 1.82601e-09
9.13007e-10 1.82601e-10
 5.79953e-06 0.000465314 0.0596927 0.00131834 1.57612e-05 0.00596927
0.00298463 0.000596927
 4.93546e-06 0.000395987 0.0507991 0.00112192 1.34129e-05 0.00507991
0.00253996 0.000507991
 1.78744e-06 0.000143412 0.0183976 0.000406318 4.85767e-06 0.00183976
0.000919878 0.000183976
 8.53403e-07 6.84711e-05 0.0087838 0.000193994 2.31926e-06 0.00087838
0.00043919 8.7838e-05
 1.75145e-06 0.000140524 0.0180271 0.000398136 4.75985e-06 0.00180271
0.000901355 0.000180271
 5.10191e-06 0.000409342 0.0525124 0.00115976 1.38653e-05 0.00525124
0.00262562 0.000525124
 1.41981e-06 0.000113916 0.0146137 0.00032275 3.85858e-06 0.00146137
0.000730684 0.000146137
 2.77402e-06 0.000222568 0.0285521 0.000630585 7.53885e-06 0.00285521
0.0014276 0.000285521
 1.30767e-06 0.000104918 0.0134594 0.000297256 3.5538e-06 0.00134594
0.000672969 0.000134594
 7.76046e-07 6.22646e-05 0.00798759 0.00017641 2.10903e-06 0.000798759
0.00039938 7.98759e-05
 7.01627e-07 5.62937e-05 0.00722162 0.000159493 1.90679e-06 0.000722162
0.000361081 7.22162e-05
 1.30487e-06 0.000104694 0.0134306 0.000296622 3.54621e-06 0.00134306
0.000671532 0.000134306
 8.42588e-07 6.76034e-05 0.00867249 0.000191536 2.28987e-06 0.000867249
0.000433624 8.67249e-05
 fleet 5 directed F at age
 0.234393 0.248049 0.24812 0.248121 0.248121 0.248121 0.248121 0.248121
 0.300554 0.318064 0.318157 0.318157 0.318157 0.318157 0.318157 0.318157
 0.285799 0.30245 0.302537 0.302538 0.302538 0.302538 0.302538 0.302538
 0.214628 0.227132 0.227198 0.227198 0.227198 0.227198 0.227198 0.227198
 0.272439 0.288311 0.288395 0.288395 0.288395 0.288395 0.288395 0.288395
 0.262239 0.277517 0.277597 0.277598 0.277598 0.277598 0.277598 0.277598
 0.317467 0.335962 0.33606 0.33606 0.33606 0.33606 0.33606 0.33606
 0.106847 0.113072 0.113104 0.113104 0.113104 0.113104 0.113104 0.113104
 0.14986 0.158591 0.158637 0.158637 0.158637 0.158637 0.158637 0.158637
 0.323391 0.342231 0.34233 0.342331 0.342331 0.342331 0.342331 0.342331
 0.201751 0.213506 0.213567 0.213568 0.213568 0.213568 0.213568 0.213568
 0.19307 0.204318 0.204377 0.204377 0.204377 0.204377 0.204377 0.204377
 0.165232 0.174858 0.174909 0.174909 0.174909 0.174909 0.174909 0.174909
 0.00525752 0.0647318 0.244412 0.298205 0.302532 0.302817 0.302836 0.302837
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 0.00781595 0.0962318 0.363348 0.443318 0.449751 0.450175 0.450203 0.450205
 0.00694886 0.0855559 0.323039 0.394137 0.399856 0.400233 0.400258 0.400259
 0.00626289 0.0771102 0.29115 0.355229 0.360384 0.360724 0.360746 0.360747
 0.00386591 0.047598 0.179718 0.219273 0.222455 0.222665 0.222678 0.222679
 0.00638621 0.0786285 0.296882 0.362224 0.36748 0.367827 0.367849 0.367851
 0.0041416 0.0509923 0.192535 0.23491 0.238319 0.238544 0.238558 0.238559
 0.0025761 0.0317175 0.119758 0.146115 0.148236 0.148376 0.148385 0.148385
 0.0032056 0.039468 0.149022 0.18182 0.184459 0.184633 0.184644 0.184645
 0.00307873 0.037906 0.143124 0.174624 0.177158 0.177325 0.177336 0.177337
 0.00374018 0.04605 0.173874 0.212142 0.21522 0.215423 0.215436 0.215437
 0.00418246 0.0514954 0.194434 0.237228 0.24067 0.240897 0.240912 0.240913
 fleet 6 directed F at age
 0.00346068 0.0552852 0.0448186 0.0290249 0.0170214 0.00931829 0.0048925
0.00250976
 0.00138681 0.0221546 0.0179603 0.0116312 0.00682103 0.00373414 0.00196059
0.00100574
 0.00129988 0.0207659 0.0168345 0.0109022 0.00639348 0.00350008 0.00183769
0.000942704
 0.000546565 0.00873151 0.00707846 0.00458408 0.00268829 0.00147169
0.000772702 0.000396382
 0.00295796 0.0472542 0.038308 0.0248086 0.0145488 0.00796467 0.00418179
0.00214518
 0.00205789 0.0328753 0.0266513 0.0172597 0.0101218 0.00554112 0.00290933
0.00149243
 0.00368511 0.0588706 0.0477252 0.0309073 0.0181253 0.00992261 0.0052098
0.00267253
 0.000330039 0.00527246 0.00427427 0.00276806 0.0016233 0.00088867 0.00046659
0.000239352
 0.00176563 0.0282064 0.0228664 0.0148085 0.00868429 0.00475418 0.00249615
0.00128048
 0.0037086 0.0592459 0.0480294 0.0311043 0.0182408 0.00998587 0.00524301
0.00268957
 0.00510778 0.0815981 0.0661499 0.0428393 0.0251227 0.0137533 0.00722108
0.00370428
 0.00455234 0.0727248 0.0589565 0.0381808 0.0223908 0.0122577 0.00643583
0.00330146
 0.00334895 0.0535003 0.0433716 0.0280879 0.0164719 0.00901746 0.00473455
0.00242874
 0.00393812 0.041529 0.0526683 0.0223497 0.00643116 0.00161527 0.000390855
9.37072e-05
 0.00283895 0.0299378 0.037968 0.0161117 0.00463616 0.00116443 0.000281763
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5.39421e-05
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9.28365e-05
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 0.00298268 0.0314535 0.0398903 0.0169274 0.00487087 0.00122338 0.000296028
7.09726e-05
```

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 0.00411014 0.043343 0.0549689 0.0233259 0.00671207 0.00168582 0.000407927
9.78004e-05
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0.0001181
 0.0043754 0.0461403 0.0585164 0.0248313 0.00714526 0.00179462 0.000434254
0.000104112
Discard F by age and year for each fleet
 fleet 1 Discard F at age
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
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 0 0 0 0 0 0 0 0
 fleet 2 Discard F at age
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
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0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
fleet 3 Discard F at age
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
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fleet 4 Discard F at age
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0 0 0 0 0 0 0 0
fleet 5 Discard F at age
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
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 0 0 0 0 0 0 0 0
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 fleet 6 Discard F at age
 0 0 0 0 0 0 0 0
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 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
Total F
 0.257521 0.97465 1.00164 0.985863 0.973859 0.966156 0.96173 0.959347
 0.318476 0.964148 0.996422 0.990111 0.985301 0.982214 0.980441 0.979486
 0.311726 1.05152 1.08515 1.07924 1.07473 1.07183 1.07017 1.06928
 0.245503 1.34659 1.40892 1.40646 1.40456 1.40335 1.40265 1.40227
 0.295951 1.21118 1.25585 1.24238 1.23212 1.22554 1.22175 1.21972
 0.279211 0.981997 1.01771 1.00834 1.0012 0.99662 0.993988 0.992571
 0.361065 1.97302 2.05577 2.039 2.02621 2.01801 2.0133 2.01076
```

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 0.129859 1.06788 1.07654 1.07446 1.07252 1.07634 1.07363 1.07158
 0.165179 0.927253 0.672397 0.660676 0.649576 0.673934 0.657495 0.644935
 0.346144 1.33496 1.13308 1.11309 1.09605 1.11154 1.09489 1.08281
 0.233935 2.19523 1.93322 1.90529 1.88125 1.90582 1.88127 1.86334
 0.208496 0.78573 0.726139 0.704416 0.687325 0.684585 0.675057 0.668958
 0.180501 0.741226 0.761639 0.687253 0.673331 0.677534 0.667407 0.660426
 0.0132477 0.207938 1.11292 1.51081 1.53496 1.53865 1.5344 1.53159
 0.0135274 0.213882 0.96091 1.31798 1.34103 1.34388 1.34093 1.33897
 0.0105172 0.164802 0.609399 0.772552 0.777531 0.779034 0.776647 0.775096
 0.0106982 0.165997 0.602842 0.758044 0.760966 0.762527 0.75939 0.75738
 0.00833151 0.242511 0.491889 0.563168 0.558588 0.573868 0.563518 0.555786
 0.0112803 0.204843 0.551005 0.672204 0.668957 0.672754 0.667693 0.664287
 0.00975224 0.139638 0.452332 0.516575 0.507035 0.506576 0.502771 0.500522
 0.0064212 0.113895 0.367474 0.46288 0.461642 0.463091 0.460104 0.458177
 0.00705605 0.129257 0.361269 0.446087 0.442584 0.444137 0.440892 0.438791
 0.0083242 0.130268 0.420348 0.524162 0.518706 0.5174 0.514613 0.513069
 0.0100544 0.145965 0.509937 0.62423 0.616801 0.614489 0.61146 0.609868
 0.00969079 0.167974 0.47592 0.588916 0.583196 0.583941 0.579926 0.577442

Average F for ages 3 to 5
Freport unweighted in .std and MCMC files
year    unweighted   Nweighted    Bweighted
1982  0.98712  0.974221  0.974041
1983  0.990612  0.990034  0.988165
1984  1.0797  1.08514  1.08513
1985  1.40665  1.40835  1.40809
1986  1.24345  1.24708  1.24417
1987  1.00908  1.01562  1.01362
1988  2.04033  2.05284  2.05109
1989  1.07451  1.07488  1.07458
1990  0.660883  0.670983  0.669797
1991  1.11407  1.12493  1.12184
1992  1.90658  1.92037  1.91342
1993  0.70596  0.715317  0.710301
1994  0.707407  0.758347  0.754387
1995  1.38623  1.26793  1.30055
1996  1.20664  1.0187  1.05256
1997  0.719827  0.643643  0.651303
1998  0.707284  0.668238  0.683283
1999  0.537882  0.520782  0.529045
2000  0.630722  0.597362  0.612426
2001  0.491981  0.480492  0.485946
2002  0.430665  0.404369  0.414133
2003  0.416647  0.399284  0.40863
2004  0.487739  0.466956  0.478453
2005  0.583656  0.574129  0.584758
2006  0.549344  0.516056  0.53054

Population Numbers at the Start of the Year
 97062.2 141.934 66.7132 194.838 11323.2 1.87289 2.45433 4.12177
 103590 61425.9 43.8472 20.0607 59.5196 3500.81 0.583523 2.06103
 29010.2 61680.2 19176.4 13.2539 6.10222 18.1924 1073.34 0.812862
 56267.3 17390.4 17644.9 5304.38 3.68788 1.70562 5.09965 301.606
 78406 36039.3 3703.7 3530.8 1064.04 0.74118 0.343207 61.7818
 10996.4 47748.6 8788.35 863.707 834.555 254.095 0.178164 15.0206
 50266.8 6809.77 14642.9 2600.53 257.983 251.061 76.791 4.61183
 22469 28682.3 775.181 1534.47 277.127 27.8457 27.3218 8.90182
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 29309.9 16155.7 8071.99 216.277 429.009 77.6304 7.77055 10.141
 18141.7 20343.2 5233.2 3373.68 91.4586 183.442 32.3957 7.65287
 56335.6 10507.3 4383.22 1379.81 907.48 25.0241 49.4203 10.9959
 32501.5 36502.9 957.759 519.218 168.076 113.231 3.04657 7.56305
 37381.4 21602.1 13621.7 379.349 210.168 69.2061 46.7513 4.44178
 41145.4 25550.9 8428.05 5207.1 156.21 87.7575 28.7764 21.5162
 29040.8 33243.7 16991.9 2267.42 941.027 27.5567 15.424 8.88761
 27793.1 23457.2 21976.7 5321.87 496.916 201.531 5.88475 5.21085
 34351 22517 16287.1 9782.4 2012.29 186.959 75.7099 4.18133
 25643.4 27825 15615.6 7297.5 3752.95 769.746 71.4046 30.6117
 30997 20820.8 17875.4 7817.65 3402 1757.61 355.027 47.6528
 28222.5 25093.5 13889.2 8435.25 3268.01 1426.76 734.326 169.161
 30073.3 22882.4 17867.3 7233.9 4119.96 1611.47 703.865 447.606
 17902 24464.3 16717.8 10130 3728.1 2125.91 830.319 595.523
 28339.4 14553.8 17601 9537.23 5309.04 1960.73 1116.35 751.825
 13577.9 23010 10460.3 9465.09 4622.99 2587.53 956.873 914.819
 30243.3 11005.4 16280.5 5143.07 4151.13 2042.63 1145.93 832.07

q by index
 index 1 q over time
1992  0.000163468
1993  0.000163468
1994  0.000163468
1995  0.000163468
1996  0.000163468
1997  0.000163468
1998  0.000163468
1999  0.000163468
2000  0.000163468
2001  0.000163468
2002  0.000163468
2003  0.000163468
2004  0.000163468
2005  0.000163468
2006  0.000163468
 index 2 q over time
1992  0.000544383
1993  0.000544383
1994  0.000544383
1995  0.000544383
1996  0.000544383
1997  0.000544383
1998  0.000544383
1999  0.000544383
2000  0.000544383
2001  0.000544383
2002  0.000544383
2003  0.000544383
2004  0.000544383
2005  0.000544383
2006  0.000544383
 index 3 q over time
1992  0.00042715
1993  0.00042715
1994  0.00042715
1995  0.00042715
1996  0.00042715
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1997  0.00042715
1998  0.00042715
1999  0.00042715
2000  0.00042715
2001  0.00042715
2002  0.00042715
2003  0.00042715
2004  0.00042715
2005  0.00042715
2006  0.00042715
 index 4 q over time
1992  0.000346283
1993  0.000346283
1994  0.000346283
1995  0.000346283
1996  0.000346283
1997  0.000346283
1998  0.000346283
1999  0.000346283
2000  0.000346283
2001  0.000346283
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2003  0.000346283
2004  0.000346283
2005  0.000346283
2006  0.000346283
 index 5 q over time
1992  0.000427125
1993  0.000427125
1994  0.000427125
1996  0.000427125
1997  0.000427125
1998  0.000427125
1999  0.000427125
2000  0.000427125
2001  0.000427125
2002  0.000427125
2003  0.000427125
2004  0.000427125
2005  0.000427125
2006  0.000427125
 index 6 q over time
1982  2.00161e-05
1983  2.00161e-05
1984  2.00161e-05
1985  2.00161e-05
1986  2.00161e-05
1987  2.00161e-05
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2002  2.00161e-05
2003  2.00161e-05
2004  2.00161e-05
2005  2.00161e-05
2006  2.00161e-05
 index 7 q over time
1982  8.58831e-05
1983  8.58831e-05
1984  8.58831e-05
1985  8.58831e-05
1986  8.58831e-05
1987  8.58831e-05
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2004  8.58831e-05
2005  8.58831e-05
2006  8.58831e-05
 index 8 q over time
1982  7.57892e-05
1983  7.57892e-05
1984  7.57892e-05
1985  7.57892e-05
1986  7.57892e-05
1987  7.57892e-05
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2002  7.57892e-05
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2003  7.57892e-05
2004  7.57892e-05
2005  7.57892e-05
2006  7.57892e-05
 index 9 q over time
1982  7.18747e-05
1983  7.18747e-05
1984  7.18747e-05
1985  7.18747e-05
1986  7.18747e-05
1987  7.18747e-05
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2003  7.18747e-05
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2005  7.18747e-05
2006  7.18747e-05
 index 10 q over time
1983  4.9264e-05
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1985  4.9264e-05
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2004  4.9264e-05
2005  4.9264e-05
2006  4.9264e-05
 index 11 q over time
1983  0.000127481
1984  0.000127481
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2005  0.000127481
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1983  0.000161081
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2004  0.000161081
2005  0.000161081
2006  0.000161081
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1983  0.000164117
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1985  0.000164117
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2004  0.000164117
2005  0.000164117
2006  0.000164117
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 index 14 q over time
1982  9.31499e-05
1983  9.31499e-05
1984  9.31499e-05
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2002  9.31499e-05
2003  9.31499e-05
2004  9.31499e-05
2005  9.31499e-05
2006  9.31499e-05
 index 15 q over time
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1983  9.14703e-05
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1985  9.14703e-05
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2005  9.14703e-05
2006  9.14703e-05
 index 16 q over time
1982  0.000380429
1983  0.000380429
1984  0.000380429
1985  0.000380429
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1986  0.000380429
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1982  0.000110505
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 index 18 q over time
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 index 19 q over time
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 index 20 q over time
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 index 28 q over time
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 index 32 q over time
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1982  0.000244766
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1988  3.90491e-05
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 index 37 q over time
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 index 38 q over time
1986  5.7135e-06
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 index 39 q over time
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2005  1.11134e-06
2006  1.11134e-06

Proportions of catch at age by fleet
 fleet 1
Year 1 Obs  =  0.0999237 0.477013 0.390403 0.0160876 0.00422994 0.0067263
0.00395257 0.00166424
Year 1 Pred =  0.0615149 0.0105437 0.00528093 0.015522 0.906459 0.000150399
0.000197444 0.000331906
Year 2 Obs  =  0.10236 0.634204 0.227746 0.0289916 0.00156994 0.00324454
0.000680308 0.00120362
Year 2 Pred =  0.0129341 0.928445 0.0007047 0.000323243 0.000960914 0.0565892
9.43918e-06 3.33525e-05
Year 3 Obs  =  0.0664268 0.506889 0.31883 0.0766062 0.0272241 0.00340893
0.000142039 0.000473462
Year 3 Pred =  0.00298161 0.738669 0.244113 0.000169121 7.80045e-05
0.00023282 0.0137453 1.04133e-05
Year 4 Obs  =  0.0447546 0.343172 0.536416 0.0509351 0.0140125 0.00900421
0.00133198 0.000372955
Year 4 Pred =  0.013151 0.409802 0.437609 0.131678 9.16141e-05 4.23899e-05
0.000126775 0.00749886
Year 5 Obs  =  0.0249296 0.431275 0.39042 0.135673 0.00967781 0.00569644
0.00177631 0.000551268
Year 5 Pred =  0.0158082 0.789545 0.0859204 0.0823363 0.0249109 1.73962e-05
8.06714e-06 0.00145333
Year 6 Obs  =  0.0183903 0.493436 0.413006 0.0517919 0.0186673 0.00127403
0.00132942 0.00210491
Year 6 Pred =  0.00157162 0.805541 0.157439 0.0155317 0.0150506 0.00459088
3.22241e-06 0.000271828
Year 7 Obs  =  0.0137816 0.502282 0.406308 0.0578374 0.0147757 0.00356965
0.000813339 0.000632597
Year 7 Pred =  0.0225917 0.260734 0.587743 0.104959 0.010456 0.010203
0.00312558 0.000187869
Year 8 Obs  =  0.0113879 0.295492 0.572835 0.0997628 0.0180308 0.00189798
0.000355872 0.000237248
Year 8 Pred =  0.00665445 0.903626 0.0262184 0.0519437 0.00938833 0.000941912
0.000925182 0.000301683
Year 9 Obs  =  0 0.651696 0.210154 0.112033 0.0197706 0.00439346 0.00146449
0.000488162
Year 9 Pred =  0.00949134 0.598819 0.358541 0.00965533 0.0192439 0.00344604
0.000347377 0.0004558
Year 10 Obs  =  0 0.519579 0.450533 0.0196485 0.00844057 0.00152207
0.00013837 0.00013837
Year 10 Pred =  0.00552959 0.657586 0.196935 0.127963 0.0034924 0.0069622
0.00123761 0.000293762
Year 11 Obs  =  0.0115983 0.586021 0.36372 0.034388 0.00193306 0.00223827 0
0.00010174
Year 11 Pred =  0.0391928 0.546609 0.267525 0.0850104 0.056365 0.00154146
0.00306955 0.000687123
Year 12 Obs  =  0.0213669 0.609594 0.331116 0.0246215 0.00410358 0.00608462
0.00268855 0.000424508
Year 12 Pred =  0.00677607 0.942489 0.027317 0.0149468 0.00487381 0.00328727
8.88082e-05 0.000221041
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Year 13 Obs  =  0.0151246 0.470005 0.469243 0.0345704 0.00813421 0.00152517
0.000762583 0.000635486
Year 13 Pred =  0.00806068 0.580154 0.390711 0.01123 0.0062588 0.00205725
0.00139579 0.00013301
Year 14 Obs  =  0.00640312 0.357183 0.595768 0.0335468 0.00556793 0.00111359
0.000278396 0.000139198
Year 14 Pred =  0.0173923 0.233929 0.422512 0.308626 0.00931208 0.00522739
0.00171678 0.00128495
Year 15 Obs  =  0 0.251933 0.573098 0.143499 0.0280525 0.00269736 0.000539471
0.000179824
Year 15 Pred =  0.00858986 0.212416 0.633469 0.101027 0.0421735 0.00123436
0.000691682 0.000398853
Year 16 Obs  =  0 0.086758 0.557534 0.277169 0.059589 0.0157534 0.00228311
0.000913242
Year 16 Pred =  0.00569526 0.106094 0.656777 0.203908 0.0192777 0.00781778
0.000228515 0.000202478
Year 17 Obs  =  0 0.0439265 0.385253 0.45316 0.0979381 0.0161363 0.00336172
0.000224115
Year 17 Pred =  0.00662072 0.0957429 0.459155 0.354726 0.0739455 0.00686955
0.00278559 0.000153974
Year 18 Obs  =  0 0.0307962 0.39309 0.381072 0.14647 0.0400601 0.00650976
0.002003
Year 18 Pred =  0.00469388 0.1083 0.43842 0.272922 0.142697 0.0290896
0.00271074 0.00116605
Year 19 Obs  =  0 0.0548229 0.500129 0.280062 0.116111 0.0307732 0.0121541
0.00594776
Year 19 Pred =  0.00535727 0.0779794 0.462343 0.263719 0.116604 0.0601779
0.0121823 0.00163753
Year 20 Obs  =  0 0.192057 0.381393 0.272035 0.0900435 0.0421654 0.0160501
0.0062568
Year 20 Pred =  0.00494308 0.0981263 0.380003 0.30831 0.121705 0.0531755
0.027415 0.00632167
Year 21 Obs  =  0 0.0797956 0.53184 0.270244 0.0752752 0.0261399 0.0147406
0.00196541
Year 21 Pred =  0.00464383 0.079727 0.447021 0.238335 0.137802 0.0538951
0.0235724 0.0150032
Year 22 Obs  =  0 0.0960949 0.431814 0.276631 0.108771 0.0521366 0.0224903
0.012063
Year 22 Pred =  0.0025383 0.077725 0.385256 0.308855 0.115511 0.0658603
0.025761 0.0184937
Year 23 Obs  =  0 0.048398 0.439966 0.297639 0.126138 0.0507589 0.0202361
0.0168634
Year 23 Pred =  0.00401573 0.0462162 0.394942 0.280887 0.15903 0.0587996
0.0335197 0.0225899
Year 24 Obs  =  0 0.084207 0.228491 0.271093 0.181561 0.112332 0.0605758
0.0617407
Year 24 Pred =  0.00232233 0.0876187 0.272462 0.322375 0.160274 0.0898475
0.0332701 0.0318298
Year 25 Obs  =  0 0.0787154 0.466205 0.232997 0.121327 0.0579345 0.0277078
0.0151134
Year 25 Pred =  0.00548825 0.0439977 0.456674 0.188689 0.15491 0.0762444
0.0428493 0.031147
 fleet 2
Year 1 Obs  =  0.172408 0.608612 0.179438 0.0249561 0.00913884 0.00333919
0.00105448 0.00105448
Year 1 Pred =  0.500369 0.00604186 0.00280912 0.00825643 0.482162 8.00002e-05
0.000105024 0.000176547
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Year 2 Obs  =  0.0778358 0.59769 0.250119 0.0454042 0.0213574 0.00648632
0.000474608 0.000632811
Year 2 Pred =  0.157398 0.795952 0.000560811 0.000257233 0.000764684 0.045033
7.51159e-06 2.65415e-05
Year 3 Obs  =  0.0814915 0.508356 0.349416 0.049416 0.00961366 0.00161725
8.98473e-05 0
Year 3 Pred =  0.0414607 0.723608 0.221986 0.000153786 7.09315e-05
0.000211709 0.012499 9.46907e-06
Year 4 Obs  =  0.0274049 0.415828 0.493428 0.0472595 0.0118848 0.0033557
0.000699105 0.000139821
Year 4 Pred =  0.164889 0.361972 0.358813 0.107965 7.51154e-05 3.4756e-05
0.000103944 0.0061484
Year 5 Obs  =  0.0420725 0.482665 0.369497 0.0932996 0.00564862 0.00623296
0.00019478 0.00038956
Year 5 Pred =  0.187838 0.660915 0.0667646 0.0639773 0.0193563 1.35173e-05
6.26837e-06 0.00112928
Year 6 Obs  =  0.054914 0.570351 0.306151 0.0624558 0.00589206 0.000235682 0
0
Year 6 Pred =  0.022156 0.800018 0.145146 0.0143185 0.013875 0.00423228
2.97071e-06 0.000250596
Year 7 Obs  =  0 0.495499 0.377951 0.0800068 0.0385595 0.00662477 0.000169866
0.00118906
Year 7 Pred =  0.25723 0.20914 0.437631 0.0781494 0.00778527 0.00759683
0.00232721 0.000139882
Year 8 Obs  =  0.000823384 0.0201729 0.591601 0.294772 0.076163 0.0152326
0.000411692 0.000823384
Year 8 Pred =  0.0873515 0.835632 0.0225068 0.0445888 0.008059 0.000808543
0.000794181 0.000258966
Year 9 Obs  =  0.00140449 0.100421 0.51264 0.293539 0.0821629 0.00842697
0.000702247 0.000702247
Year 9 Pred =  0.122799 0.545797 0.303359 0.00816901 0.0162815 0.00291556
0.000293902 0.000385634
Year 10 Obs  =  0 0.142431 0.611857 0.194258 0.0432513 0.00745712 0.000745712
0
Year 10 Pred =  0.0748398 0.62699 0.174306 0.113256 0.003091 0.00616199
0.00109537 0.000259998
Year 11 Obs  =  0 0.0214031 0.472652 0.414388 0.0778835 0.0124851 0.00118906
0
Year 11 Pred =  0.374024 0.367484 0.166958 0.0530518 0.0351753 0.00096197
0.00191559 0.000428808
Year 12 Obs  =  0 0.269211 0.575536 0.13173 0.0230005 0.000522739 0 0
Year 12 Pred =  0.0885873 0.868037 0.0233548 0.0127784 0.00416675 0.00281037
7.59244e-05 0.000188974
Year 13 Obs  =  0.00277649 0.119389 0.583989 0.232763 0.0532161 0.00647848
0.00138825 0
Year 13 Pred =  0.106257 0.538762 0.336814 0.00968051 0.00539525 0.0017734
0.00120321 0.000114658
Year 14 Obs  =  0 0.0642528 0.493788 0.304934 0.117501 0.0188143 0.000709975
0
Year 14 Pred =  0.0164851 0.162741 0.378787 0.417122 0.0131815 0.00742094
0.0024376 0.00182447
Year 15 Obs  =  0 0.164492 0.620533 0.157119 0.0374362 0.015882 0.0036869
0.000850822
Year 15 Pred =  0.00881751 0.160038 0.615044 0.147874 0.0646521 0.00189776
0.0010636 0.000613321
Year 16 Obs  =  0 0.0163305 0.600384 0.363112 0.0172911 0.00288184 0 0
```

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Year 16 Pred =  0.00549377 0.0751143 0.599233 0.28047 0.0277712 0.0112948
0.000330204 0.000292584
Year 17 Obs  =  0.0118421 0.359868 0.456579 0.151316 0.0184211 0.00197368 0 0
Year 17 Pred =  0.00579687 0.0615278 0.38025 0.442871 0.0966905 0.00900855
0.00365357 0.000201954
Year 18 Obs  =  0.000712758 0.0498931 0.35923 0.412687 0.108339 0.0627227
0.00427655 0.00213828
Year 18 Pred =  0.00407982 0.0690898 0.36043 0.338255 0.185229 0.0378691
0.00352946 0.00151825
Year 19 Obs  =  0 0.028169 0.224225 0.510423 0.194366 0.0309859 0.0101408
0.00169014
Year 19 Pred =  0.00461471 0.0493012 0.376692 0.32392 0.150002 0.0776383
0.0157195 0.00211303
Year 20 Obs  =  0 0.0539986 0.278879 0.380041 0.228298 0.0430622 0.0123035
0.00341763
Year 20 Pred =  0.00416101 0.0606265 0.302558 0.37007 0.153001 0.0670424
0.03457 0.00797164
Year 21 Obs  =  0 0.0351423 0.255338 0.459075 0.204626 0.0311388 0.0133452
0.00133452
Year 21 Pred =  0.00396866 0.0500091 0.36134 0.290436 0.175876 0.068985
0.0301775 0.0192073
Year 22 Obs  =  0 0.0262997 0.205505 0.435474 0.221407 0.075841 0.030581
0.00489297
Year 22 Pred =  0.00211204 0.0474674 0.3032 0.366445 0.143538 0.0820769
0.0321095 0.0230515
Year 23 Obs  =  0 0.0106054 0.26867 0.381352 0.198409 0.10517 0.0251878
0.0106054
Year 23 Pred =  0.00328718 0.027767 0.305783 0.327859 0.194411 0.0720895
0.0411028 0.0277005
Year 24 Obs  =  0 0.00888657 0.24621 0.434919 0.203346 0.0747517 0.0230005
0.00888657
Year 24 Pred =  0.00184977 0.0512234 0.205268 0.366144 0.190652 0.107186
0.0396972 0.0379791
Year 25 Obs  =  0 0.00924499 0.223934 0.337956 0.229584 0.132512 0.048793
0.0179764
Year 25 Pred =  0.00459203 0.0270195 0.361408 0.225119 0.193568 0.0955469
0.0537064 0.0390394
 fleet 3
Year 1 Obs  =  0 0 0 0 0 0 0 0
Year 1 Pred =  0.135354 0.814374 0.0116478 0.0198118 0.0167883 0.00107831
0.000707803 0.000237965
Year 2 Obs  =  0 0 0 0 0 0 0 0
Year 2 Pred =  0.000394463 0.993954 2.15434e-05 5.71852e-06 2.46674e-07
0.00562354 4.69009e-07 3.3144e-07
Year 3 Obs  =  0 0 0 0 0 0 0 0
Year 3 Pred =  0.000113801 0.989659 0.00933959 3.74437e-06 2.50601e-08
2.89549e-05 0.000854727 1.29506e-07
Year 4 Obs  =  0 0 0 0 0 0 0 0
Year 4 Pred =  0.000881663 0.964402 0.0294083 0.00512086 5.16981e-08
9.26004e-06 1.3847e-05 0.000163812
Year 5 Obs  =  0 0 0 0 0 0 0 0
Year 5 Pred =  0.000567303 0.994601 0.00309078 0.00171399 7.52469e-06
2.0342e-06 4.71659e-07 1.69943e-05
Year 6 Obs  =  0 0 0 0 0 0 0 0
Year 6 Pred =  5.52216e-05 0.99355 0.00554517 0.000316568 4.45127e-06
0.000525611 1.84467e-07 3.11217e-06
Year 7 Obs  =  0 0 0 0 0 0 0 0
```

```
Year 7 Pred =  0.00229042 0.927905 0.0597301 0.00617262 8.9228e-06 0.00337053
0.000516264 6.20622e-06
Year 8 Obs  =  0.310372 0.651982 0.0376452 0 0 0 0 0
Year 8 Pred =  0.000209342 0.997866 0.00082678 0.000947898 2.48599e-06
9.65518e-05 4.74184e-05 3.09243e-06
Year 9 Obs  =  0.338025 0.646259 0.0157166 0 0 0 0 0
Year 9 Pred =  0.000443382 0.98194 0.0167892 0.000261639 7.56678e-06
0.000524537 2.64379e-05 6.93793e-06
Year 10 Obs  =  0.206489 0.793511 0 0 0 0 0 0
Year 10 Pred =  0.000236459 0.987086 0.00844164 0.00317419 1.25706e-06
0.000970098 8.62232e-05 4.09322e-06
Year 11 Obs  =  0.421841 0.563915 0.0131483 0.00109569 0 0 0 0
Year 11 Pred =  0.00200426 0.981212 0.0137136 0.00252176 2.42618e-05
0.000256854 0.000255739 1.14495e-05
Year 12 Obs  =  0.378133 0.556484 0.06502 0.00036324 0 0 0 0
Year 12 Pred =  0.000204483 0.998377 0.000826326 0.000261645 1.23798e-06
0.000323236 4.36624e-06 2.17349e-06
Year 13 Obs  =  0.205618 0.603889 0.17753 0.0129636 0 0 0 0
Year 13 Pred =  0.000387902 0.980015 0.0188471 0.000313482 2.53518e-06
0.000322585 0.000109432 2.08564e-06
Year 14 Obs  =  0.181467 0.525097 0.265122 0.028314 0 0 0 0
Year 14 Pred =  0.000311709 0.990543 0.00681472 0.00209579 9.04353e-07
0.000196413 3.22523e-05 4.82792e-06
Year 15 Obs  =  0.0239334 0.663892 0.248699 0.0634755 0 0 0 0
Year 15 Pred =  0.00016907 0.987785 0.0112208 0.000753428 4.49799e-06
5.09349e-05 1.42705e-05 1.64579e-06
Year 16 Obs  =  0.0126984 0.395238 0.477778 0.114286 0 0 0 0
Year 16 Pred =  0.000221116 0.97318 0.0229479 0.00299962 4.05565e-06
0.000636332 9.29983e-06 1.64804e-06
Year 17 Obs  =  0.047619 0.306878 0.386243 0.259259 0 0 0 0
Year 17 Pred =  0.000285467 0.975337 0.0178167 0.00579522 1.72768e-05
0.000620972 0.000125899 1.39182e-06
Year 18 Obs  =  0.0319893 0.407531 0.416861 0.143619 0 0 0 0
Year 18 Pred =  0.000179465 0.978302 0.0150854 0.00395378 2.9564e-05
0.00233173 0.00010864 9.34648e-06
Year 19 Obs  =  0.0220441 0.164329 0.460922 0.352705 0 0 0 0
Year 19 Pred =  0.000280706 0.965351 0.0218017 0.00523569 3.3107e-05
0.00661056 0.000669097 1.79879e-05
Year 20 Obs  =  0.0226337 0.203704 0.218107 0.555556 0 0 0 0
Year 20 Pred =  0.000207783 0.974529 0.0143753 0.0049105 2.77218e-05
0.00468615 0.00120796 5.57092e-05
Year 21 Obs  =  0.0247148 0.235741 0.418251 0.321293 0 0 0 0
Year 21 Pred =  0.000238446 0.967198 0.0206566 0.00463688 3.83414e-05
0.0058017 0.00126873 0.000161503
Year 22 Obs  =  0.00319489 0.421725 0.408946 0.0894569 0.0399361 0.0159744
0.0159744 0.00479233
Year 22 Pred =  0.000133599 0.966533 0.0182484 0.00615941 3.29444e-05
0.00726735 0.00142127 0.000204064
Year 23 Obs  =  0.00369004 0.143911 0.494465 0.195572 0.0811808 0.0332103
0.0258303 0.0221402
Year 23 Pred =  0.00034771 0.945461 0.0307753 0.00921531 7.46157e-05
0.0106738 0.00304233 0.000410062
Year 24 Obs  =  0.0162602 0.166667 0.390244 0.211382 0.0894309 0.0528455
0.0406504 0.0325203
Year 24 Pred =  0.000109022 0.971812 0.011511 0.00573423 4.0771e-05
0.00884274 0.00163718 0.000313261
```

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Year 25 Obs  =  0.0114286 0.14 0.517143 0.148571 0.0828571 0.0457143
0.0314286 0.0228571
Year 25 Pred =  0.000494654 0.936901 0.0370417 0.00644374 7.56565e-05
0.0144068 0.00404822 0.000588527
 fleet 4
Year 1 Obs  =  0 0 0 0 0 0 0 0
Year 1 Pred =  0.146857 0.0126319 0.75343 0.048907 0.0341455 0.00214567
0.00140842 0.000473514
Year 2 Obs  =  0 0 0 0 0 0 0 0
Year 2 Pred =  0.015046 0.542005 0.0489901 0.000496276 1.76376e-05 0.393389
3.2809e-05 2.31855e-05
Year 3 Obs  =  0 0 0 0 0 0 0 0
Year 3 Pred =  0.000198711 0.0247048 0.972251 1.48756e-05 8.20274e-08
9.2724e-05 0.00273714 4.14724e-07
Year 4 Obs  =  0 0 0 0 0 0 0 0
Year 4 Pred =  0.000495337 0.007746 0.98502 0.00654583 5.4447e-08 9.54129e-06
1.42675e-05 0.000168787
Year 5 Obs  =  0 0 0 0 0 0 0 0
Year 5 Pred =  0.00279457 0.0700437 0.907706 0.0192102 6.94848e-05 1.83776e-
05 4.26111e-06 0.000153532
Year 6 Obs  =  0 0 0 0 0 0 0 0
Year 6 Pred =  0.000159347 0.0409869 0.953952 0.00207838 2.4078e-05 0.0027816
9.76226e-07 1.647e-05
Year 7 Obs  =  0 0 0 0 0 0 0 0
Year 7 Pred =  0.000636627 0.00368718 0.989783 0.00390358 4.64914e-06
0.00171816 0.000263171 3.16368e-06
Year 8 Obs  =  0 0 0 0 0 0 0 0
Year 8 Pred =  0.00316241 0.215504 0.744609 0.0325797 7.03985e-05 0.00267496
0.00131372 8.56757e-05
Year 9 Obs  =  0 0 0 0 0 0 0 0
Year 9 Pred =  0.000435949 0.0138027 0.984156 0.000585306 1.39467e-05
0.000945865 4.76739e-05 1.25108e-05
Year 10 Obs  =  0 0 0 0 0 0 0 0
Year 10 Pred =  0.000448867 0.0267879 0.955358 0.0137094 4.47321e-06
0.00337733 0.00030018 1.42503e-05
Year 11 Obs  =  0 0 0 0 0 0 0 0
Year 11 Pred =  0.00238502 0.0166926 0.972897 0.00682757 5.41209e-05
0.000560559 0.000558126 2.49875e-05
Year 12 Obs  =  0 0 0 0 0 0 0 0
Year 12 Pred =  0.00314861 0.219775 0.758562 0.00916639 3.57338e-05
0.00912806 0.000123301 6.13784e-05
Year 13 Obs  =  0 0.604376 0.362808 0.0328168 0 0 0 0
Year 13 Pred =  0.000340402 0.0122949 0.986036 0.000625903 4.17043e-06
0.000519171 0.000176121 3.35665e-06
Year 14 Obs  =  0 0.404255 0.524823 0.070922 0 0 0 0
Year 14 Pred =  0.000731795 0.0332457 0.953818 0.0111947 3.97998e-06
0.000845681 0.000138866 2.07873e-05
Year 15 Obs  =  0 0.741611 0.241611 0.0167785 0 0 0 0
Year 15 Pred =  0.000246783 0.0206126 0.976447 0.00250216 1.23075e-05
0.000136352 3.82019e-05 4.40576e-06
Year 16 Obs  =  0 0.220779 0.636364 0.142857 0 0 0 0
Year 16 Pred =  0.000159047 0.0100074 0.984065 0.00490902 5.46849e-06
0.00083943 1.22681e-05 2.17405e-06
Year 17 Obs  =  0.00595238 0.25 0.434524 0.309524 0 0 0 0
Year 17 Pred =  0.000261653 0.0127804 0.973585 0.0120854 2.96847e-05
0.00104385 0.000211635 2.33963e-06
Year 18 Obs  =  0.00208333 0.133333 0.497917 0.366667 0 0 0 0
```

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Year 18 Pred =  0.000193583 0.0150863 0.970111 0.0097034 5.97796e-05
0.00461278 0.000214919 1.84898e-05
Year 19 Obs  =  0.0111732 0.256983 0.458101 0.273743 0 0 0 0
Year 19 Pred =  0.000209606 0.0103052 0.97055 0.00889506 4.63417e-05
0.00905285 0.000916297 2.46336e-05
Year 20 Obs  =  0 0.0634146 0.243902 0.692683 0 0 0 0
Year 20 Pred =  0.000232602 0.0155962 0.959391 0.0125069 5.81736e-05
0.00962088 0.00248 0.000114373
Year 21 Obs  =  0.00564972 0.169492 0.468927 0.355932 0 0 0 0
Year 21 Pred =  0.000187833 0.0108923 0.970105 0.0083106 5.66178e-05
0.00838174 0.00183295 0.000233323
Year 22 Obs  =  0 0.387387 0.432432 0.117117 0.036036 0.00900901 0.00900901
0.00900901
Year 22 Pred =  0.000117992 0.0122036 0.960843 0.0123769 5.45423e-05
0.0117712 0.00230208 0.000330532
Year 23 Obs  =  0 0.133333 0.609524 0.180952 0.047619 0.0190476 0.00952381 0
Year 23 Pred =  0.000183426 0.00713031 0.967885 0.0110606 7.37864e-05
0.0103267 0.00294338 0.000396724
Year 24 Obs  =  0 0.08 0.52 0.24 0.08 0.04 0.02 0.02
Year 24 Pred =  0.000148697 0.0189493 0.936005 0.0177946 0.000104242
0.0221194 0.00409526 0.000783595
Year 25 Obs  =  0 0.0887097 0.637097 0.169355 0.0564516 0.0241935 0.016129
0.00806452
Year 25 Pred =  0.000217721 0.00589539 0.971999 0.00645297 6.24232e-05
0.0116295 0.00326782 0.000475074
 fleet 5
Year 1 Obs  =  0.177729 0.545789 0.226071 0.0362567 0.0138952 0 0.000258515 0
Year 1 Pred =  0.914206 0.00103718 0.000482371 0.00141776 0.0827949 1.37373e-
05 1.80343e-05 3.03159e-05
Year 2 Obs  =  0.10964 0.553058 0.237093 0.0638217 0.0251476 0.0104782 0
0.00076205
Year 2 Pred =  0.665339 0.316128 0.000222802 0.000102195 0.000303797
0.0178909 2.98424e-06 1.05445e-05
Year 3 Obs  =  0.130587 0.526352 0.276452 0.0579113 0.00841202 0.000286123 0
0
Year 3 Pred =  0.315221 0.516908 0.158622 0.000109889 5.06845e-05 0.000151278
0.00893124 6.76618e-06
Year 4 Obs  =  0.0905476 0.452015 0.395988 0.0427435 0.0133743 0.00533165 0 0
Year 4 Pred =  0.677532 0.139748 0.138568 0.0416944 2.90086e-05 1.34223e-05
4.0142e-05 0.00237443
Year 5 Obs  =  0.100594 0.551416 0.239566 0.0936236 0.0111006 0.00129077
0.00240943 0
Year 5 Pred =  0.711101 0.235085 0.0237548 0.0227631 0.00688699 4.80945e-06
2.23029e-06 0.000401796
Year 6 Obs  =  0.059377 0.595041 0.263954 0.0569612 0.0231405 0.000127146
0.000635728 0.000762873
Year 6 Pred =  0.194288 0.659154 0.119624 0.0118008 0.0114353 0.0034881
2.44835e-06 0.000206532
Year 7 Obs  =  0.0430723 0.576506 0.33243 0.0388554 0.00883534 0.000301205 0
0
Year 7 Pred =  0.786556 0.0600866 0.125769 0.0224591 0.00223738 0.00218322
0.000668809 4.02002e-05
Year 8 Obs  =  0.042516 0.313337 0.552126 0.0786255 0.00931858 0.00116482
0.00291206 0
Year 8 Pred =  0.504619 0.453566 0.0122198 0.024209 0.00437555 0.00043899
0.000431192 0.000140603
Year 9 Obs  =  0.0930416 0.7301 0.139431 0.0311017 0.0060622 0 0.000263574 0
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Year 9 Pred = 0.598355 0.249877 0.138924 0.00374103 0.00745619 0.00133519
0.000134594 0.000176603
Year 10 Obs = 0.0141727 0.59443 0.371622 0.0130191 0.00659196 0.000164799 0
0
Year 10 Pred = 0.46262 0.364153 0.101266 0.0657976 0.00179576 0.0035799
0.000636369 0.00015105
Year 11 Obs = 0.0165934 0.639544 0.320472 0.0179928 0 0.00539784 0 0
Year 11 Pred = 0.864104 0.0797693 0.0362518 0.0115192 0.00763768 0.000208874
0.000415936 9.31079e-05
Year 12 Obs = 0.0121651 0.60502 0.357715 0.0244841 0.000307977 0.000307977
0 0
Year 12 Pred = 0.508472 0.468129 0.0125988 0.00689336 0.00224776 0.00151606
4.09576e-05 0.000101942
Year 13 Obs = 0.117858 0.596449 0.253319 0.0274504 0.00417723 0.000149187
0.000596748 0
Year 13 Pred = 0.55854 0.266088 0.166397 0.00478248 0.00266542 0.000876118
0.000594422 5.66446e-05
Year 14 Obs = 0.0694528 0.453999 0.428743 0.0348767 0.0078172 0.00481058
0.000300661 0
Year 14 Pred = 0.0558895 0.389637 0.329018 0.21333 0.00643599 0.00361426
0.00118704 0.00088846
Year 15 Obs = 0.0165785 0.419465 0.495641 0.0505931 0.017579 0.000142918 0
0
Year 15 Pred = 0.0283026 0.362767 0.505793 0.071602 0.0298865 0.000875072
0.00049037 0.000282769
Year 16 Obs = 0.000558114 0.160179 0.584345 0.204409 0.0382308 0.0122785 0
0
Year 16 Pred = 0.0211229 0.203953 0.590289 0.162675 0.0153776 0.00623855
0.000182361 0.000161584
Year 17 Obs = 0 0.110044 0.417682 0.388881 0.0737928 0.00902708 0.000573148
0
Year 17 Pred = 0.0252862 0.189534 0.424957 0.29142 0.0607416 0.00564504
0.00228915 0.000126533
Year 18 Obs = 0 0.0489408 0.482591 0.3701 0.0791332 0.0146092 0.00462625 0
Year 18 Pred = 0.0178094 0.212984 0.403103 0.222743 0.116447 0.0237474
0.00221301 0.000951951
Year 19 Obs = 0 0.0740931 0.528266 0.292783 0.0824253 0.0217921 0.000640943
0
Year 19 Pred = 0.0209643 0.158168 0.438438 0.221986 0.0981395 0.0506681
0.0102575 0.00137881
Year 20 Obs = 0 0.158292 0.373064 0.336419 0.101813 0.0228561 0.00680015
0.000755572
Year 20 Pred = 0.019079 0.196311 0.355427 0.255972 0.101033 0.04416
0.0227679 0.0052501
Year 21 Obs = 0.00030656 0.0594727 0.406806 0.369099 0.129062 0.0282036
0.00613121 0.000919681
Year 21 Pred = 0.0182043 0.161996 0.42465 0.20097 0.116184 0.0454575
0.0198828 0.0126549
Year 22 Obs = 0 0.0519851 0.367186 0.384075 0.142136 0.0375082 0.0135995
0.00350954
Year 22 Pred = 0.0101065 0.160405 0.371717 0.26452 0.0989178 0.0564209
0.0220697 0.0158438
Year 23 Obs = 0.00526662 0.0467413 0.341014 0.377441 0.14944 0.0482774
0.0263331 0.00548607
Year 23 Pred = 0.016524 0.09857 0.393812 0.248616 0.140742 0.0520576
0.0296775 0.0200005

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Year 24 Obs  =  0.000729927 0.0447689 0.291241 0.374453 0.183698 0.0579075
0.0240876 0.0231144
Year 24 Pred =  0.00925537 0.180995 0.263137 0.276362 0.137381 0.0770434
0.0285299 0.027295
Year 25 Obs  =  0.000987167 0.017769 0.34847 0.325518 0.179911 0.078233
0.0333169 0.0157947
Year 25 Pred =  0.0223836 0.0930094 0.451346 0.165535 0.135885 0.0669058
0.0376025 0.0273333
 fleet 6
Year 1 Obs  =  0.212871 0.787129 0 0 0 0 0 0
Year 1 Pred =  0.686457 0.0117566 0.00443128 0.00843459 0.288861 2.62378e-05
1.80851e-05 1.55953e-05
Year 2 Obs  =  0.158085 0.841915 0 0 0 0 0 0
Year 2 Pred =  0.121235 0.869569 0.000496687 0.000147538 0.000257208
0.00829231 7.26225e-07 1.31634e-06
Year 3 Obs  =  0.170732 0.829268 0 0 0 0 0 0
Year 3 Pred =  0.0312955 0.774704 0.192667 8.64395e-05 2.33807e-05 3.82032e-
05 0.00118421 4.60218e-07
Year 4 Obs  =  0.162602 0.837398 0 0 0 0 0 0
Year 4 Pred =  0.140724 0.438166 0.352112 0.0686132 2.79949e-05 7.09123e-06
1.11349e-05 0.000337871
Year 5 Obs  =  0.109729 0.890271 0 0 0 0 0 0
Year 5 Pred =  0.149292 0.74505 0.0610148 0.0378641 0.00671815 2.56836e-06
6.25341e-07 5.77915e-05
Year 6 Obs  =  0.0805471 0.919453 0 0 0 0 0 0
Year 6 Pred =  0.0165156 0.845846 0.124408 0.00794789 0.00451659 0.000754212
2.77954e-07 1.20279e-05
Year 7 Obs  =  0.0763889 0.923611 0 0 0 0 0 0
Year 7 Pred =  0.229509 0.264669 0.448977 0.0519223 0.00303337 0.00162041
0.00026063 8.03622e-06
Year 8 Obs  =  0.135417 0.864583 0 0 0 0 0 0
Year 8 Pred =  0.0654078 0.887485 0.019378 0.0248619 0.0026352 0.000144736
7.46428e-05 1.24857e-05
Year 9 Obs  =  0.113208 0.886792 0 0 0 0 0 0
Year 9 Pred =  0.0974827 0.61454 0.276901 0.00482893 0.00564418 0.00055331
2.9285e-05 1.97115e-05
Year 10 Obs  =  0.023976 0.976024 0 0 0 0 0 0
Year 10 Pred =  0.0597822 0.710373 0.160099 0.0673672 0.00107823 0.00117672
0.000109827 1.33728e-05
Year 11 Obs  =  0.024602 0.975398 0 0 0 0 0 0
Year 11 Pred =  0.327349 0.45618 0.168017 0.0345748 0.0134438 0.000201273
0.000210437 2.41649e-05
Year 12 Obs  =  0.0191657 0.980834 0 0 0 0 0 0
Year 12 Pred =  0.065202 0.90618 0.0197652 0.00700351 0.00133924 0.000494501
7.01423e-06 8.95573e-06
Year 13 Obs  =  0.175182 0.824818 0 0 0 0 0 0
Year 13 Pred =  0.0838092 0.602723 0.305464 0.00568567 0.00185831 0.000334392
0.00011912 5.82303e-06
Year 14 Obs  =  0.139278 0.860722 0 0 0 0 0 0
Year 14 Pred =  0.110493 0.659763 0.187129 0.0421992 0.0003611 5.08835e-05
4.0436e-06 7.25598e-07
Year 15 Obs  =  0.0384911 0.961509 0 0 0 0 0 0
Year 15 Pred =  0.0574625 0.630829 0.295427 0.0145456 0.00172204 1.26519e-05
1.71546e-06 2.37162e-07
Year 16 Obs  =  0.0172786 0.590353 0.37581 0.0165587 0 0 0 0
Year 16 Pred =  0.05524 0.456832 0.444103 0.0425668 0.0011413 0.000116182
8.21735e-07 1.74563e-07
```

```
Year 17 Obs  =  0 0.403892 0.51592 0.0801887 0 0 0 0
Year 17 Pred =  0.0741962 0.476332 0.358725 0.085559 0.00505817 0.000117956
1.15737e-05 1.53376e-07
Year 18 Obs  =  0.0471116 0.32922 0.553561 0.0701066 0 0 0 0
Year 18 Pred =  0.0520802 0.533452 0.339123 0.0651742 0.00966409 0.000494531
1.11508e-05 1.14998e-06
Year 19 Obs  =  0 0.314914 0.588519 0.0965665 0 0 0 0
Year 19 Pred =  0.0680786 0.43992 0.409597 0.072128 0.00904449 0.00117171
5.73947e-05 1.84966e-06
Year 20 Obs  =  0 0.524324 0.369231 0.0993763 0.00706861 0 0 0
Year 20 Pred =  0.0599393 0.528234 0.321237 0.0804633 0.00900801 0.000987963
0.000123248 6.81365e-06
Year 21 Obs  =  0.0533049 0.401564 0.404407 0.140725 0 0 0 0
Year 21 Pred =  0.0601023 0.458086 0.403337 0.0663894 0.0108862 0.00106876
0.000113109 1.72597e-05
Year 22 Obs  =  0.0298598 0.478367 0.365021 0.118221 0.00853138 0 0 0
Year 22 Pred =  0.0355673 0.483497 0.376341 0.0931445 0.00987949 0.00141399
0.000133828 2.30338e-05
Year 23 Obs  =  0.0499706 0.298648 0.466784 0.180482 0.00411523 0 0 0
Year 23 Pred =  0.0678482 0.346652 0.465192 0.102141 0.0164005 0.00152217
0.000209967 3.39251e-05
Year 24 Obs  =  0.109767 0.498271 0.31936 0.0691443 0.00345722 0 0 0
Year 24 Pred =  0.0340098 0.569644 0.278171 0.10161 0.0143268 0.00201605
0.000180639 4.14332e-05
Year 25 Obs  =  0.0883694 0.314709 0.505701 0.0826682 0.00741163 0.00114025 0
0
Year 25 Pred =  0.0885205 0.31504 0.513502 0.0655016 0.0152509 0.00188423
0.00025623 4.4654e-05

Proportions of Discards at age by fleet
 fleet 1
Year 1 Obs  =  0 0 0 0 0 0 0 0
Year 1 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 2 Obs  =  0 0 0 0 0 0 0 0
Year 2 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 3 Obs  =  0 0 0 0 0 0 0 0
Year 3 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 4 Obs  =  0 0 0 0 0 0 0 0
Year 4 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 5 Obs  =  0 0 0 0 0 0 0 0
Year 5 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 6 Obs  =  0 0 0 0 0 0 0 0
Year 6 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 7 Obs  =  0 0 0 0 0 0 0 0
Year 7 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 8 Obs  =  0 0 0 0 0 0 0 0
Year 8 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 9 Obs  =  0 0 0 0 0 0 0 0
Year 9 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 10 Obs  =  0 0 0 0 0 0 0 0
Year 10 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 11 Obs  =  0 0 0 0 0 0 0 0
Year 11 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 12 Obs  =  0 0 0 0 0 0 0 0
Year 12 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 13 Obs  =  0 0 0 0 0 0 0 0
Year 13 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
```

```
Year 14 Obs  =  0 0 0 0 0 0 0 0
Year 14 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 15 Obs  =  0 0 0 0 0 0 0 0
Year 15 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 16 Obs  =  0 0 0 0 0 0 0 0
Year 16 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 17 Obs  =  0 0 0 0 0 0 0 0
Year 17 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 18 Obs  =  0 0 0 0 0 0 0 0
Year 18 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 19 Obs  =  0 0 0 0 0 0 0 0
Year 19 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 20 Obs  =  0 0 0 0 0 0 0 0
Year 20 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 21 Obs  =  0 0 0 0 0 0 0 0
Year 21 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 22 Obs  =  0 0 0 0 0 0 0 0
Year 22 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 23 Obs  =  0 0 0 0 0 0 0 0
Year 23 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 24 Obs  =  0 0 0 0 0 0 0 0
Year 24 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 25 Obs  =  0 0 0 0 0 0 0 0
Year 25 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
 fleet 2
Year 1 Obs  =  0 0 0 0 0 0 0 0
Year 1 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 2 Obs  =  0 0 0 0 0 0 0 0
Year 2 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 3 Obs  =  0 0 0 0 0 0 0 0
Year 3 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 4 Obs  =  0 0 0 0 0 0 0 0
Year 4 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 5 Obs  =  0 0 0 0 0 0 0 0
Year 5 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 6 Obs  =  0 0 0 0 0 0 0 0
Year 6 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 7 Obs  =  0 0 0 0 0 0 0 0
Year 7 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 8 Obs  =  0 0 0 0 0 0 0 0
Year 8 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 9 Obs  =  0 0 0 0 0 0 0 0
Year 9 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 10 Obs  =  0 0 0 0 0 0 0 0
Year 10 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 11 Obs  =  0 0 0 0 0 0 0 0
Year 11 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 12 Obs  =  0 0 0 0 0 0 0 0
Year 12 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 13 Obs  =  0 0 0 0 0 0 0 0
Year 13 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 14 Obs  =  0 0 0 0 0 0 0 0
Year 14 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 15 Obs  =  0 0 0 0 0 0 0 0
Year 15 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 16 Obs  =  0 0 0 0 0 0 0 0
Year 16 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
```

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Year 17 Obs  =  0 0 0 0 0 0 0 0
Year 17 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 18 Obs  =  0 0 0 0 0 0 0 0
Year 18 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 19 Obs  =  0 0 0 0 0 0 0 0
Year 19 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 20 Obs  =  0 0 0 0 0 0 0 0
Year 20 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 21 Obs  =  0 0 0 0 0 0 0 0
Year 21 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 22 Obs  =  0 0 0 0 0 0 0 0
Year 22 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 23 Obs  =  0 0 0 0 0 0 0 0
Year 23 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 24 Obs  =  0 0 0 0 0 0 0 0
Year 24 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 25 Obs  =  0 0 0 0 0 0 0 0
Year 25 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
 fleet 3
Year 1 Obs  =  0 0 0 0 0 0 0 0
Year 1 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 2 Obs  =  0 0 0 0 0 0 0 0
Year 2 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 3 Obs  =  0 0 0 0 0 0 0 0
Year 3 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 4 Obs  =  0 0 0 0 0 0 0 0
Year 4 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 5 Obs  =  0 0 0 0 0 0 0 0
Year 5 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 6 Obs  =  0 0 0 0 0 0 0 0
Year 6 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 7 Obs  =  0 0 0 0 0 0 0 0
Year 7 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 8 Obs  =  0 0 0 0 0 0 0 0
Year 8 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 9 Obs  =  0 0 0 0 0 0 0 0
Year 9 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 10 Obs  =  0 0 0 0 0 0 0 0
Year 10 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 11 Obs  =  0 0 0 0 0 0 0 0
Year 11 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 12 Obs  =  0 0 0 0 0 0 0 0
Year 12 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 13 Obs  =  0 0 0 0 0 0 0 0
Year 13 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 14 Obs  =  0 0 0 0 0 0 0 0
Year 14 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 15 Obs  =  0 0 0 0 0 0 0 0
Year 15 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 16 Obs  =  0 0 0 0 0 0 0 0
Year 16 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 17 Obs  =  0 0 0 0 0 0 0 0
Year 17 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 18 Obs  =  0 0 0 0 0 0 0 0
Year 18 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 19 Obs  =  0 0 0 0 0 0 0 0
Year 19 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
```

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Year 20 Obs  =  0 0 0 0 0 0 0 0
Year 20 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 21 Obs  =  0 0 0 0 0 0 0 0
Year 21 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 22 Obs  =  0 0 0 0 0 0 0 0
Year 22 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 23 Obs  =  0 0 0 0 0 0 0 0
Year 23 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 24 Obs  =  0 0 0 0 0 0 0 0
Year 24 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 25 Obs  =  0 0 0 0 0 0 0 0
Year 25 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
 fleet 4
Year 1 Obs  =  0 0 0 0 0 0 0 0
Year 1 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 2 Obs  =  0 0 0 0 0 0 0 0
Year 2 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 3 Obs  =  0 0 0 0 0 0 0 0
Year 3 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 4 Obs  =  0 0 0 0 0 0 0 0
Year 4 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 5 Obs  =  0 0 0 0 0 0 0 0
Year 5 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 6 Obs  =  0 0 0 0 0 0 0 0
Year 6 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 7 Obs  =  0 0 0 0 0 0 0 0
Year 7 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 8 Obs  =  0 0 0 0 0 0 0 0
Year 8 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 9 Obs  =  0 0 0 0 0 0 0 0
Year 9 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 10 Obs  =  0 0 0 0 0 0 0 0
Year 10 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 11 Obs  =  0 0 0 0 0 0 0 0
Year 11 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 12 Obs  =  0 0 0 0 0 0 0 0
Year 12 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 13 Obs  =  0 0 0 0 0 0 0 0
Year 13 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 14 Obs  =  0 0 0 0 0 0 0 0
Year 14 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 15 Obs  =  0 0 0 0 0 0 0 0
Year 15 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 16 Obs  =  0 0 0 0 0 0 0 0
Year 16 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 17 Obs  =  0 0 0 0 0 0 0 0
Year 17 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 18 Obs  =  0 0 0 0 0 0 0 0
Year 18 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 19 Obs  =  0 0 0 0 0 0 0 0
Year 19 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 20 Obs  =  0 0 0 0 0 0 0 0
Year 20 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 21 Obs  =  0 0 0 0 0 0 0 0
Year 21 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 22 Obs  =  0 0 0 0 0 0 0 0
Year 22 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
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Year 23 Obs  =  0 0 0 0 0 0 0 0
Year 23 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 24 Obs  =  0 0 0 0 0 0 0 0
Year 24 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 25 Obs  =  0 0 0 0 0 0 0 0
Year 25 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
 fleet 5
Year 1 Obs  =  0 0 0 0 0 0 0 0
Year 1 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 2 Obs  =  0 0 0 0 0 0 0 0
Year 2 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 3 Obs  =  0 0 0 0 0 0 0 0
Year 3 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 4 Obs  =  0 0 0 0 0 0 0 0
Year 4 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 5 Obs  =  0 0 0 0 0 0 0 0
Year 5 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 6 Obs  =  0 0 0 0 0 0 0 0
Year 6 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 7 Obs  =  0 0 0 0 0 0 0 0
Year 7 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 8 Obs  =  0 0 0 0 0 0 0 0
Year 8 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 9 Obs  =  0 0 0 0 0 0 0 0
Year 9 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 10 Obs  =  0 0 0 0 0 0 0 0
Year 10 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 11 Obs  =  0 0 0 0 0 0 0 0
Year 11 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 12 Obs  =  0 0 0 0 0 0 0 0
Year 12 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 13 Obs  =  0 0 0 0 0 0 0 0
Year 13 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 14 Obs  =  0 0 0 0 0 0 0 0
Year 14 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 15 Obs  =  0 0 0 0 0 0 0 0
Year 15 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 16 Obs  =  0 0 0 0 0 0 0 0
Year 16 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 17 Obs  =  0 0 0 0 0 0 0 0
Year 17 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 18 Obs  =  0 0 0 0 0 0 0 0
Year 18 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 19 Obs  =  0 0 0 0 0 0 0 0
Year 19 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 20 Obs  =  0 0 0 0 0 0 0 0
Year 20 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 21 Obs  =  0 0 0 0 0 0 0 0
Year 21 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 22 Obs  =  0 0 0 0 0 0 0 0
Year 22 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 23 Obs  =  0 0 0 0 0 0 0 0
Year 23 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 24 Obs  =  0 0 0 0 0 0 0 0
Year 24 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 25 Obs  =  0 0 0 0 0 0 0 0
Year 25 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
```

```
 fleet 6
Year 1 Obs  =  0 0 0 0 0 0 0 0
Year 1 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 2 Obs  =  0 0 0 0 0 0 0 0
Year 2 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 3 Obs  =  0 0 0 0 0 0 0 0
Year 3 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 4 Obs  =  0 0 0 0 0 0 0 0
Year 4 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 5 Obs  =  0 0 0 0 0 0 0 0
Year 5 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 6 Obs  =  0 0 0 0 0 0 0 0
Year 6 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 7 Obs  =  0 0 0 0 0 0 0 0
Year 7 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 8 Obs  =  0 0 0 0 0 0 0 0
Year 8 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 9 Obs  =  0 0 0 0 0 0 0 0
Year 9 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 10 Obs  =  0 0 0 0 0 0 0 0
Year 10 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 11 Obs  =  0 0 0 0 0 0 0 0
Year 11 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 12 Obs  =  0 0 0 0 0 0 0 0
Year 12 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 13 Obs  =  0 0 0 0 0 0 0 0
Year 13 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 14 Obs  =  0 0 0 0 0 0 0 0
Year 14 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 15 Obs  =  0 0 0 0 0 0 0 0
Year 15 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 16 Obs  =  0 0 0 0 0 0 0 0
Year 16 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 17 Obs  =  0 0 0 0 0 0 0 0
Year 17 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 18 Obs  =  0 0 0 0 0 0 0 0
Year 18 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 19 Obs  =  0 0 0 0 0 0 0 0
Year 19 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 20 Obs  =  0 0 0 0 0 0 0 0
Year 20 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 21 Obs  =  0 0 0 0 0 0 0 0
Year 21 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 22 Obs  =  0 0 0 0 0 0 0 0
Year 22 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 23 Obs  =  0 0 0 0 0 0 0 0
Year 23 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 24 Obs  =  0 0 0 0 0 0 0 0
Year 24 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15
Year 25 Obs  =  0 0 0 0 0 0 0 0
Year 25 Pred =  1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15 1e-15

F Reference Points Using Final Year Selectivity and Freport options
 refpt           F       slope to plot on SRR
  F0.1     0.152881     0.319245
  Fmax     0.279128     0.516866
  F30%SPR  0.229528     0.436022
```

```
  F40%SPR  0.158236     0.327007
  Fmsy     0.186241     0.368634    SSBmsy    6.51841e+25     MSY
1.14189e+25
  Fcurrent 0.549344     0.981741

Stock-Recruitment Relationship Parameters
 alpha     = 2.93159e+25
 beta      = 1.43419e+25
 unexpl    = 2.23067e+26
 steepness = 0.805387
Spawning Stock, Obs Recruits(year+1), Pred Recruits(year+1), standardized
residual
init  xxxx  97062.2  15698.8  3.85656
1982  15299.5  103590  31273.5  2.53539
1983  20232.5  29010.2  41356.9  -0.750651
1984  17910.5  56267.3  36610.4  0.909817
1985  12866.4  78406  26299.9  2.3124
1986  14397.4  10996.4  29429.5  -2.08397
1987  12863.5  50266.8  26294  1.37179
1988  7234.02  22469  14786.9  0.885709
1989  7950.32  29309.9  16251.1  1.2485
1990  9597.1  18141.7  19617.2  -0.165538
1991  6721.31  56335.6  13738.9  2.9872
1992  6674.25  32501.5  13642.7  1.83768
1993  11836.1  37381.4  24193.9  0.921021
1994  14637.2  41145.4  29919.6  0.674452
1995  18578.8  29040.8  37976.5  -0.567898
1996  20634.6  27793.1  42178.8  -0.883041
1997  21338.4  34351  43617.4  -0.505576
1998  23304.3  25643.4  47635.8  -1.31102
1999  24300.2  30997  49671.5  -0.998224
2000  25984.9  28222.5  53115.3  -1.33864
2001  30300  30073.3  61935.6  -1.5294
2002  33479  17902  68433.7  -2.83872
2003  35553.7  28339.4  72674.7  -1.9936
2004  31562.3  13577.9  64515.8  -3.29917
2005  27021.8  30243.3  55234.7  -1.27507
2006  24936       xxxx   50971.2

Root Mean Square Error computed from Standardized Residuals
Component                  #resids         RMSE
_Catch_Fleet_1                25           0.725723
_Catch_Fleet_2                25           0.227321
_Catch_Fleet_3                25           3.18695
_Catch_Fleet_4                25           2.11043
_Catch_Fleet_5                25           0.287387
_Catch_Fleet_6                25           0.0438207
Catch_Fleet_Total             150           1.59548
_Discard_Fleet_1              0            0
_Discard_Fleet_2              0            0
_Discard_Fleet_3              0            0
_Discard_Fleet_4              0            0
_Discard_Fleet_5              0            0
_Discard_Fleet_6              0            0
Discard_Fleet_Total           0            0
_Index_1                      15           2.63899
_Index_2                      15           2.75352
```

```
_Index_3                    15          2.90266
_Index_4                    15          2.97054
_Index_5                    14          1.71904
_Index_6                    25          3.77745
_Index_7                    25          4.51911
_Index_8                    24          4.55728
_Index_9                    20          5.06911
_Index_10                    15          1.98099
_Index_11                    24          2.55692
_Index_12                    24          3.02387
_Index_13                    22          2.9767
_Index_14                    25          3.51974
_Index_15                    25          3.28889
_Index_16                    24          3.36338
_Index_17                    22          3.94782
_Index_18                    23          1.51235
_Index_19                    23          2.29602
_Index_20                    22          2.98137
_Index_21                    22          2.14156
_Index_22                    22          1.5502
_Index_23                    22          2.35926
_Index_24                    22          1.48266
_Index_25                    25          3.42895
_Index_26                    20          3.75802
_Index_27                    17          1.62819
_Index_28                    17          1.76583
_Index_29                    19          1.45328
_Index_30                    19          1.77833
_Index_31                    16          1.68215
_Index_32                    15          1.76458
_Index_33                    19          2.02468
_Index_34                    25          1.09348
_Index_35                    25          1.37439
_Index_36                    19          1.49039
_Index_37                    25          1.33349
_Index_38                    21          1.98413
_Index_39                    15          1.64904
Index_Total                 802          2.76882
Nyear1                      7          4.12008
Fmult_Year1                 6          8.9986
_Fmult_devs_Fleet_1         0          0
_Fmult_devs_Fleet_2         0          0
_Fmult_devs_Fleet_3         0          0
_Fmult_devs_Fleet_4         0          0
_Fmult_devs_Fleet_5         0          0
_Fmult_devs_Fleet_6         0          0
Fmult_devs_Total            0          0
Recruit_devs                0          0
Fleet_Sel_params            32          6.12623
Index_Sel_params            0          0
q_year1                     0          0
q_devs                      0          0
SRR_steepness               0          0
SRR_unexpl_S                0          0

Projections not requested
```

```
that's all
```