

ASAP FINAL TERMINAL YEAR 2006 RUN (F08 FINAL T2006.REP)

Age Structured Assessment Program (ASAP) Version 2.0
Start time for run: Tue Apr 22 14:04:08 2008

obj_fun = 4129.13

Component	Lambda	obj_fun
__Catch_Fleet_1	10	2021.06
__Catch_Fleet_2	10	1350
Catch_Fleet_Total	20	3371.06
Discard_Fleet_Total	0	0
__Index_Fit_1	1	62.4538
__Index_Fit_2	1	41.8752
__Index_Fit_3	1	29.8409
__Index_Fit_4	1	28.0347
__Index_Fit_5	1	4.29183
__Index_Fit_6	1	17.9629
__Index_Fit_7	1	4.6618
__Index_Fit_8	1	-6.56081
__Index_Fit_9	1	-50.6321
__Index_Fit_10	1	-35.3013
__Index_Fit_11	1	11.0003
__Index_Fit_12	1	-6.62937
__Index_Fit_13	1	-36.7012
__Index_Fit_14	1	28.4984
__Index_Fit_15	1	-14.2225
__Index_Fit_16	1	11.9055
__Index_Fit_17	1	-21.0681
__Index_Fit_18	1	-5.35967
__Index_Fit_19	1	-33.838
__Index_Fit_20	1	-46.6582
__Index_Fit_21	1	15.7057
__Index_Fit_22	1	-0.124791
__Index_Fit_23	1	-36.9599
__Index_Fit_24	1	-52.4357
__Index_Fit_25	1	9.62513
__Index_Fit_26	1	-12.6381
__Index_Fit_27	1	1.78529
__Index_Fit_28	1	10.0115
__Index_Fit_29	1	42.0813
__Index_Fit_30	1	29.3935
__Index_Fit_31	1	-4.67064
__Index_Fit_32	1	-10.4854
__Index_Fit_33	1	-21.3929
__Index_Fit_34	1	21.0149
__Index_Fit_35	1	74.6825
__Index_Fit_36	1	19.6284
__Index_Fit_37	1	-1.9789
__Index_Fit_38	1	-4.88607
__Index_Fit_39	1	-32.1625
Index_Fit_Total	39	29.7474
Catch_Age_Comps	see_below	643.015
Discard_Age_Comps	see_below	0
Survey_Age_Comps	see_below	0
__Sel_Param_1	1	0.867088

__Sel_Param_2	1	3.65536
__Sel_Param_3	1	1.13592
__Sel_Param_4	1	2.72343
__Sel_Param_5	1	0.934309
__Sel_Param_6	1	4.19713
__Sel_Param_7	1	1.65259
__Sel_Param_8	1	3.72219
__Sel_Param_9	1	1.22391
__Sel_Param_10	1	3.43685
__Sel_Param_11	1	1.35292
__Sel_Param_12	1	0.207853
Sel_Params_Total	12	25.1096
Index_Sel_Params_Total	0	0
q_year1_Total	0	0
q_devs_Total	390000	0
__Fmult_year1_fleet_1	1	0.609516
__Fmult_year1_fleet_2	1	0.783656
Fmult_year1_fleet_Total	2	1.39317
Fmult_devs_fleet_Total	0	0
N_year_1	1	58.6486
Recruit_devs	0	0
SRR_steepness	0.01	0.0040846
SRR_unexpl_stock	0.01	0.149231
Fmult_Max_penalty	1000	0
F_penalty	0	0

Input and Estimated effective sample sizes for fleet 1

1982	200	27.7271
1983	200	30.8431
1984	200	90.0871
1985	200	331.302
1986	200	114.463
1987	200	164.466
1988	200	397.268
1989	200	163.779
1990	200	134.133
1991	200	21.4239
1992	200	196.706
1993	200	107.51
1994	200	115.255
1995	200	172.335
1996	200	34.3169
1997	200	119.736
1998	200	220.678
1999	200	54.8965
2000	200	190.279
2001	200	177.764
2002	200	92.9021
2003	200	504.807
2004	200	230.483
2005	200	349.825
2006	200	180.447

Total 5000 4223.43

Input and Estimated effective sample sizes for fleet 2

1982	90	498.805
1983	90	57.8055
1984	90	57.5958

1985	90	37.0952
1986	90	14.8764
1987	90	22.4456
1988	90	163.255
1989	90	90.3434
1990	90	26.1162
1991	90	456.218
1992	90	13.0192
1993	90	68.463
1994	90	16.8605
1995	90	17.3074
1996	90	4.79142
1997	90	46.4164
1998	90	35.6569
1999	90	38.242
2000	90	15.9088
2001	90	118.048
2002	90	56.1465
2003	90	653.953
2004	90	122.253
2005	90	61.1901
2006	90	493.346
Total	2250	3186.16

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
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

Observed and predicted total fleet catch by year and standardized residual
 fleet 1 total catches

1982	18667	18799.4	-0.0708363
1983	26089	25452.3	0.247711
1984	25641	25416.1	0.0883032
1985	20339	20672	-0.162801
1986	20289	20698.2	-0.200192
1987	17790	17773.7	0.00919516
1988	21320	20895.1	0.201815
1989	9561	9387.99	0.183072
1990	6528	6264.06	0.413753
1991	9835	9648.9	0.191509
1992	10771	10808.8	-0.0351513
1993	9720	10029.8	-0.31453
1994	10819	10981.9	-0.14982
1995	9436	8755.08	0.750847
1996	10314	10064.2	0.245801
1997	9376	9628.44	-0.266338
1998	10735	10930.2	-0.180642
1999	8616	8648.19	-0.0373878
2000	12555	12736.9	-0.144187
2001	10249	10372	-0.119601
2002	10205	10377.6	-0.168168
2003	11729	12000.3	-0.229279
2004	13060	13315.4	-0.194118
2005	12549	12573.5	-0.0195378
2006	11254	11254.8	-0.000685572

fleet 2 total catches

1982	296	296.893	-0.0302043
1983	376	376.201	-0.00536497
1984	415	414.996	0.000106675
1985	92	92.0124	-0.00135211
1986	578	578.089	-0.00153822
1987	522	521.864	0.00261906
1988	341	340.894	0.00310713

1989	754	751.933	0.0275133
1990	1448	1446.44	0.010797
1991	1481	1481.45	-0.00303367
1992	1034	1035.8	-0.0174387
1993	1756	1757.17	-0.0066898
1994	1593	1586.2	0.0429103
1995	1060	1058.23	0.0167191
1996	1144	1147.45	-0.030229
1997	881	882.872	-0.021276
1998	1123	1122.52	0.00426382
1999	2259	2250.9	0.0360075
2000	1678	1674.85	0.0188583
2001	1742	1738.98	0.0173966
2002	1226	1226.33	-0.00267698
2003	1410	1411.96	-0.0139309
2004	1278	1279.35	-0.0105886
2005	1229	1228.35	0.0052756
2006	1083	1082.98	0.000198962

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
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

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 2.90895 3.0635
 1993 6.5 3.33213 2.27616
 1994 3.76 3.51397 0.230519
 1995 6.07 4.04061 1.3863
 1996 22.17 4.84885 5.1778
 1997 3.86 3.6201 0.218579
 1998 1.68 3.65433 -2.64722
 1999 2.11 4.00743 -2.18511
 2000 0.7 3.19827 -5.17537
 2001 3.07 3.94221 -0.851832
 2002 2.77 3.7132 -0.998249
 2003 8.17 4.18494 2.27884
 2004 1.45 2.87026 -2.32606
 2005 2.96 4.15399 -1.15438
 2006 2.64 2.14549 0.706529

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 3.42474 1.10714
 1993 6.7 3.07508 2.65287
 1994 7.2 3.67237 2.29337
 1995 4.59 4.21159 0.293087
 1996 8.33 7.64783 0.291053
 1997 4.8 9.47655 -2.31708
 1998 3.25 7.47334 -2.83651
 1999 4.8 7.5415 -1.53906
 2000 6.52 8.08791 -0.734076
 2001 5.33 6.56992 -0.712459
 2002 10.74 8.24646 0.899954
 2003 14.36 7.9233 2.02561
 2004 8.68 8.9371 -0.0994342
 2005 4.03 6.11793 -1.42205

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2006  9.06  8.80414  0.0975854
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  0.470967  -1.21166
1993  0.31  0.500816  -1.63396
1994  0.82  0.560742  1.2946
1995  0.25  0.727502  -3.63863
1996  0.6  0.87877  -1.29988
1997  1.04  1.9528  -2.14621
1998  2.29  3.41843  -1.36472
1999  2.9  2.80203  0.117068
2000  4.96  3.08944  1.61267
2001  6.42  3.20424  2.36729
2002  5.58  2.92339  2.20208
2003  8.48  3.8897  2.65491
2004  4.56  3.78015  0.638913
2005  3.07  4.17359  -1.04612
2006  4.29  2.79982  1.45364
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  0.0460303  -0.478334
1993  0.05  0.0840443  -1.76904
1994  0.26  0.112987  2.83897
1995  0.02  0.137356  -6.5637
1996  0.12  0.110345  0.285741
1997  0.43  0.181169  2.94438
1998  0.42  0.680801  -1.64537
1999  0.84  1.27824  -1.43015
2000  2.51  1.27744  2.3008
2001  2.44  1.28587  2.18206
2002  2.26  1.59193  1.19368
2003  2.67  1.55779  1.83543
2004  1.64  2.11267  -0.862713
2005  1.34  1.98228  -1.3339
2006  2.47  2.13146  0.502149
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  0.0495524  -0.729499
1993  0.04  0.0197719  2.40024
1994  0.01  0.0305303  -3.80206
1996  0.03  0.03455  -0.481025
1997  0.15  0.037565  4.71645
1998  0.12  0.0990428  0.653833
1999  0.41  0.386608  0.200116
2000  1.08  1.00236  0.254144

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2001  1.34  1.14543  0.534429
2002  1.33  1.44753 -0.288465
2003  1.96  1.92354  0.0639604
2004  1.44  2.18629 -1.4224
2005  1.49  2.64488 -1.9548
2006  2.6   2.713  -0.14492
index number 6
units = 2
month = 1
starting and ending ages for selectivity = 2  2
selectivity choice = -1
  year, obs index, pred index, standardized residual
1982  0.7  0.591094  0.438947
1983  0.32  0.713157  -2.08014
1984  0.17  0.783466  -3.96604
1985  0.55  0.445233  0.548524
1986  1.48  0.536548  2.6337
1987  0.47  0.586939  -0.576732
1988  0.6   0.449166  0.751549
1989  0.06  0.120622  -1.81261
1990  0.63  0.269849  2.20078
1991  0.79  0.341251  2.17887
1992  0.77  0.290155  2.53334
1993  0.73  0.332365  2.04232
1994  0.35  0.350504  -0.00373204
1995  0.79  0.403033  1.74694
1996  1.08  0.483652  2.08525
1997  0.29  0.361089  -0.569089
1998  0.27  0.364504  -0.779006
1999  0.22  0.399723  -1.55001
2000  0.19  0.319013  -1.34511
2001  0.48  0.393218  0.517636
2002  0.34  0.370375  -0.222117
2003  0.54  0.41743  0.668271
2004  0.3   0.286296  0.121368
2005  0.26  0.414343  -1.20963
2006  0.04  0.214004  -4.35328
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  0.728323  1.75128
1983  0.39  0.762549  -1.74047
1984  0.33  0.804476  -2.31302
1985  1.56  0.834799  1.62296
1986  0.43  0.501237  -0.397902
1987  0.43  0.536724  -0.575463
1988  0.81  0.661191  0.526904
1989  0.23  0.397224  -1.41834
1990  0.03  0.110109  -3.37511
1991  0.27  0.292389  -0.20678
1992  0.41  0.320567  0.638714
1993  0.5   0.287837  1.43338
1994  0.53  0.343746  1.12387
1995  0.27  0.394219  -0.982431

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1996  0.56  0.715862  -0.637374
1997  0.67  0.887036  -0.728372
1998  0.52  0.699529  -0.769829
1999  0.74  0.705909  0.122421
2000  1.03  0.757055  0.79916
2001  0.89  0.614966  0.959512
2002  0.89  0.771896  0.369554
2003  1.29  0.741647  1.43678
2004  1.45  0.836542  1.42774
2005  0.65  0.572659  0.32883
2006  1.04  0.824096  0.603989
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  0.094435  0.621876
1983  0.19  0.156945  0.49611
1984  0.09  0.121319  -0.775115
1985  0.21  0.113027  1.60798
1986  0.2  0.128393  1.15047
1987  0.02  0.063304  -2.9908
1988  0.07  0.0877675  -0.587137
1989  0.02  0.061687  -2.92364
1990  0.06  0.0588926  0.0483577
1992  0.01  0.0455997  -3.93849
1993  0.04  0.0484897  -0.499601
1994  0.04  0.0542919  -0.792975
1995  0.02  0.0704379  -3.26798
1996  0.12  0.0850838  0.892543
1997  0.09  0.189073  -1.92684
1998  0.32  0.330977  -0.0875491
1999  0.48  0.271297  1.48103
2000  0.63  0.299124  1.93343
2001  1.02  0.31024  3.08943
2002  0.74  0.283047  2.49456
2003  0.59  0.376607  1.16526
2004  0.85  0.366  2.18714
2005  0.58  0.404093  0.938039
2006  0.24  0.271083  -0.316116
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  0.0256118  -0.64197
1983  0.03  0.0278189  0.195926
1984  0.05  0.0337121  1.02313
1985  0.04  0.0228999  1.44774
1986  0.02  0.0234121  -0.408878
1987  0.01  0.0217195  -2.01328
1988  0.02  0.0140079  0.924357
1989  0.01  0.0108226  -0.20519
1991  0.02  0.0178671  0.29272
1994  0.01  0.0126056  -0.601053

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1997 0.01 0.0202125 -1.82663
1998 0.06 0.075955 -0.612056
1999 0.13 0.142609 -0.240295
2000 0.12 0.14252 -0.44644
2001 0.2 0.14346 0.862444
2002 0.31 0.177607 1.4458
2003 0.29 0.173798 1.32896
2004 0.27 0.235705 0.352604
2005 0.15 0.221157 -1.00775
2006 0.25 0.237801 0.129858
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 0.0157397 0.621786
1984 0.02 0.0113545 1.46947
1985 0.02 0.0108902 1.57784
1986 0.01 0.00865949 0.373596
1992 0.01 0.00659288 1.08136
1995 0.01 0.00605114 1.30392
1998 0.02 0.0131775 1.08298
1999 0.03 0.0514376 -1.39953
2000 0.17 0.133362 0.630055
2001 0.1 0.152398 -1.09363
2002 0.19 0.192592 -0.0351721
2003 0.2 0.255924 -0.640006
2004 0.16 0.290882 -1.55156
2005 0.17 0.351898 -1.88848
2006 0.2 0.36096 -1.53263
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 1.38509 0.16761
1984 1.46 1.46125 -0.00154469
1985 1.39 1.51633 -0.156874
1986 0.8 0.910447 -0.23322
1987 0.83 0.974906 -0.290192
1988 0.58 1.20099 -1.31263
1989 0.62 0.721517 -0.273459
1990 0.21 0.200002 0.0879699
1991 0.38 0.531095 -0.603719
1992 0.84 0.582278 0.660858
1993 1.04 0.522828 1.24023
1994 0.8 0.62438 0.446973
1995 0.67 0.71606 -0.1199
1996 1.16 1.30029 -0.20589
1997 1.24 1.61121 -0.472263
1998 1.29 1.27063 0.0272904
1999 2.13 1.28221 0.915278
2000 1.73 1.37511 0.414029
2001 1.2 1.11702 0.129219
2002 1.36 1.40207 -0.0549427

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2003  1.17  1.34713  -0.254225
2004  1.31  1.5195   -0.267534
2005  1.49  1.04018   0.648109
2006  1.14  1.49689   -0.491171
index number 12
units = 2
month = 1
starting and ending ages for selectivity = 4  4
selectivity choice = -1
  year, obs index, pred index, standardized residual
1983  0.4  0.39768  0.0104919
1984  0.34  0.307408  0.181727
1985  0.43  0.286396  0.732911
1986  0.46  0.325331  0.62466
1987  0.11  0.160405  -0.680271
1988  0.2  0.222392  -0.191383
1989  0.18  0.156307  0.254519
1990  0.05  0.149226  -1.9719
1991  0.03  0.0609517  -1.27839
1992  0.09  0.115544  -0.450561
1993  0.25  0.122867  1.28105
1994  0.03  0.137569  -2.74642
1995  0.09  0.178481  -1.23473
1996  0.28  0.215592  0.471409
1997  0.57  0.479087  0.313345
1998  1.14  0.838655  0.553609
1999  1.63  0.687433  1.55699
2000  1.49  0.757944  1.21895
2001  1.22  0.786109  0.792606
2002  0.93  0.717207  0.468556
2003  0.86  0.954275  -0.187588
2004  1.03  0.927398  0.189232
2005  1.37  1.02392  0.525092
2006  0.54  0.68689  -0.433903
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  0.058497  -1.20426
1984  0.12  0.0708891  0.949256
1985  0.07  0.0481534  0.674653
1986  0.05  0.0492305  0.02797
1987  0.11  0.0456712  1.5852
1988  0.03  0.0294555  0.033033
1989  0.03  0.0227575  0.49828
1991  0.04  0.0375705  0.112998
1993  0.03  0.0197169  0.756923
1994  0.01  0.0265068  -1.75797
1995  0.01  0.0322238  -2.11017
1996  0.02  0.025887  -0.465286
1997  0.04  0.0425024  -0.109432
1998  0.29  0.159716  1.07568
1999  0.33  0.299876  0.172628
2000  0.31  0.299688  0.0610064
2001  0.4  0.301665  0.50882

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2002  0.37  0.373468  -0.0168259
2003  0.35  0.365459  -0.0779425
2004  0.25  0.495635  -1.2342
2005  0.66  0.465045  0.631376
2006  0.47  0.500042  -0.111737
index number 14
units = 2
month = 1
starting and ending ages for selectivity = 3  3
selectivity choice = -1
year, obs index, pred index, standardized residual
1982  1.584  0.789948  1.25469
1983  0.599  0.82707  -0.581821
1984  0.078  0.872545  -4.35464
1985  1.26  0.905433  0.595935
1986  0.522  0.543647  -0.0732771
1987  0.64  0.582137  0.170892
1988  1.005  0.717136  0.608602
1989  0.363  0.430834  -0.308954
1990  0.021  0.119425  -3.13459
1991  0.05  0.317128  -3.33136
1992  0.342  0.347691  -0.02976
1993  0.492  0.312192  0.82029
1994  1.217  0.372831  2.13344
1995  1.302  0.427575  2.00812
1996  0.686  0.776432  -0.223317
1997  1.279  0.96209  0.51347
1998  1.212  0.758718  0.8447
1999  0.878  0.765638  0.24695
2000  1.659  0.821111  1.26834
2001  1.026  0.666999  0.776599
2002  1.511  0.837207  1.06482
2003  1.44  0.804399  1.05012
2004  0.283  0.907324  -2.10104
2005  0.351  0.621112  -1.02924
2006  2.44  0.893825  1.81104
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  0.125276  0.225984
1983  0.45  0.2082  1.38995
1984  0.067  0.16094  -1.58037
1985  0.036  0.149939  -2.57291
1986  0.185  0.170323  0.149063
1987  0.013  0.0839778  -3.3644
1988  0.123  0.116431  0.0989854
1989  0.102  0.0818327  0.397279
1990  0.081  0.0781257  0.0651571
1991  0.012  0.0319105  -1.76376
1992  0.09  0.0604916  0.716493
1993  0.065  0.0643255  0.018811
1994  0.048  0.0720226  -0.731774
1995  0.053  0.0934414  -1.0226
1996  0.114  0.11287  0.0179577

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1997  0.181  0.25082  -0.588334
1998  0.659  0.439068  0.7323
1999  1.112  0.359897  2.03439
2000  1.205  0.396812  2.00315
2001  0.73  0.411558  1.03351
2002  0.397  0.375485  0.100482
2003  0.624  0.499599  0.400972
2004  0.323  0.485528  -0.73503
2005  1.029  0.536062  1.17597
2006  0.975  0.359613  1.79871
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  0.474024  -0.283799
1983  1.662  0.787798  1.34629
1984  0.625  0.608971  0.0468543
1985  0.267  0.567347  -1.35925
1986  1.895  0.644477  1.94501
1987  0.679  0.317759  1.36936
1988  0.663  0.440556  0.737112
1989  0.429  0.309642  0.587974
1990  0.317  0.295616  0.125952
1992  0.288  0.228891  0.414263
1993  0.186  0.243398  -0.485021
1994  0.478  0.272522  1.0133
1995  0.076  0.353568  -2.77242
1996  0.506  0.427084  0.305773
1997  1.282  0.949065  0.542277
1998  1.508  1.66136  -0.174667
1999  0.59  1.36179  -1.50842
2000  0.94  1.50148  -0.844568
2001  2.303  1.55727  0.705624
2002  1.083  1.42078  -0.489562
2003  1.302  1.89041  -0.672464
2004  1.254  1.83716  -0.688683
2005  1.455  2.02838  -0.599137
2006  2.049  1.36072  0.738194
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  0.0460514  -2.42528
1983  0.02  0.0500199  -1.65314
1984  0.154  0.0606162  1.68146
1985  0.127  0.0411752  2.03124
1986  0.04  0.0420962  -0.0921146
1987  0.214  0.0390527  3.06767
1988  0.011  0.0251869  -1.49398
1989  0.006  0.0194596  -2.12183
1990  0.016  0.0224764  -0.612926
1991  0.011  0.032126  -1.93281
1992  0.006  0.00923383  -0.777465

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1994 0.03 0.0226656 0.50558
1997 0.114 0.0363432 2.06162
1998 0.351 0.136571 1.70229
1999 0.262 0.256419 0.0388295
2000 0.379 0.256259 0.70575
2001 0.494 0.257949 1.17179
2002 0.307 0.319347 -0.0711082
2003 0.178 0.312498 -1.01497
2004 0.256 0.42381 -0.909099
2005 0.136 0.397653 -1.93489
2006 1.35 0.427578 2.07339
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 0.378296 -0.601533
1985 0.325 0.392555 -0.340571
1986 0.1 0.235701 -1.54621
1987 0.086 0.252388 -1.94156
1988 0.223 0.310918 -0.599366
1989 0.049 0.18679 -2.41322
1990 0.022 0.0517775 -1.54354
1991 0.189 0.137493 0.573796
1992 0.188 0.150743 0.398307
1993 0.151 0.135352 0.19729
1994 0.314 0.161643 1.19746
1995 0.051 0.185377 -2.32739
1996 0.266 0.336626 -0.424654
1997 0.507 0.417119 0.351913
1998 0.594 0.328946 1.06578
1999 0.593 0.331946 1.04636
2000 0.726 0.355996 1.28514
2001 0.34 0.289181 0.291957
2002 1.264 0.362975 2.25009
2003 1.016 0.348751 1.9283
2004 0.818 0.393374 1.32026
2005 0.264 0.269286 -0.0357535
2006 0.36 0.387522 -0.132852
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 0.0701673 -0.841625
1985 0.04 0.0653713 -0.885828
1986 0.082 0.0742584 0.178839
1987 0.014 0.0366131 -1.73368
1988 0.035 0.050762 -0.670498
1989 0.024 0.0356778 -0.714997
1990 0.013 0.0340616 -1.73706
1991 0.029 0.0139125 1.3246
1992 0.021 0.0263734 -0.410874
1993 0.015 0.028045 -1.12848
1994 0.025 0.0314008 -0.411093

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1995  0.02  0.0407391  -1.28303
1996  0.086  0.0492098  1.00675
1997  0.057  0.109354  -1.17497
1998  0.503  0.191427  1.74222
1999  0.385  0.15691  1.61867
2000  0.524  0.173004  1.99847
2001  0.365  0.179433  1.28058
2002  0.465  0.163706  1.88267
2003  0.395  0.217818  1.07342
2004  0.41  0.211683  1.19216
2005  0.15  0.233715  -0.799741
2006  0.068  0.156786  -1.5065
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  0.0185776  2.05313
1986  0.008  0.0189931  -1.55927
1987  0.004  0.01762  -2.67395
1988  0.009  0.0113639  -0.420585
1989  0.016  0.00877985  1.08226
1990  0.006  0.010141  -0.94646
1991  0.028  0.0144947  1.18738
1992  0.004  0.00416616  -0.0733963
1993  0.018  0.00760677  1.55332
1994  0.018  0.0102263  1.01964
1995  0.005  0.0124319  -1.64258
1996  0.023  0.00998719  1.50437
1997  0.036  0.0163974  1.41817
1998  0.116  0.0616187  1.14087
1999  0.139  0.115692  0.330996
2000  0.074  0.11562  -0.804747
2001  0.12  0.116382  0.0552014
2002  0.233  0.144084  0.86678
2003  0.232  0.140994  0.898121
2004  0.194  0.191216  0.0260666
2005  0.033  0.179414  -3.05347
2006  0.065  0.192916  -1.96185
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  0.999988  -1.01053
1986  0.339  0.600421  -1.03087
1987  1.17  0.64293  1.07973
1988  1.067  0.792026  0.537429
1989  0.884  0.475826  1.11703
1990  0.029  0.131897  -2.73163
1991  0.674  0.350246  1.18048
1992  0.826  0.384  1.38131
1993  0.57  0.344794  0.906542
1994  0.827  0.411766  1.25759
1995  0.3  0.472226  -0.818153

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1996  0.384  0.857515  -1.44883
1997  0.887  1.06256  -0.325678
1998  0.681  0.837951  -0.374017
1999  0.269  0.845594  -2.06547
2000  0.679  0.906859  -0.521838
2001  0.395  0.736654  -1.12393
2002  2.689  0.924637  1.92515
2003  3.087  0.888403  2.24617
2004  1.459  1.00208  0.677491
2005  0.385  0.685975  -1.04163
2006  1.093  0.987167  0.183661
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  0.399583  -0.339581
1986  0.528  0.453905  0.272686
1987  0.298  0.223798  0.516399
1988  0.223  0.310283  -0.595683
1989  0.481  0.218081  1.42648
1990  0.095  0.208202  -1.41499
1991  0.11  0.0850404  0.464108
1992  0.34  0.161208  1.34578
1993  0.366  0.171425  1.36784
1994  0.152  0.191937  -0.42071
1995  0.085  0.249018  -1.93841
1996  0.117  0.300796  -1.70286
1997  1.188  0.668426  1.03713
1998  1.373  1.1701  0.288378
1999  1.054  0.959112  0.170131
2000  1.484  1.05749  0.611065
2001  0.871  1.09679  -0.415675
2002  1.137  1.00065  0.230365
2003  1.93  1.33141  0.669559
2004  1.319  1.29391  0.0346299
2005  0.755  1.42859  -1.15006
2006  0.744  0.958355  -0.456575
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  0.0572415  0.413673
1986  0.075  0.0585219  0.447396
1987  0.072  0.0542908  0.509115
1988  0.033  0.0350147  -0.106869
1989  0.037  0.0270526  0.564704
1990  0.015  0.0312465  -1.32343
1991  0.042  0.0446613  -0.110797
1992  0.036  0.0128368  1.85965
1993  0.046  0.0234381  1.21599
1994  0.039  0.0315095  0.384611
1995  0.024  0.0383055  -0.843151
1996  0.012  0.0307727  -1.69828

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1997 0.042 0.050524 -0.333227
1998 0.373 0.18986 1.21781
1999 0.321 0.356472 -0.189021
2000 0.346 0.356249 -0.0526451
2001 0.341 0.358599 -0.090751
2002 0.436 0.443954 -0.0326028
2003 0.479 0.434433 0.176118
2004 0.407 0.589177 -0.667097
2005 0.44 0.552814 -0.411616
2006 0.355 0.594416 -0.929576
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 0.012063 1.31418
1986 0.009 0.00959207 -0.114897
1987 0.007 0.00762591 -0.154444
1988 0.003 0.00902544 -1.98631
1989 0.003 0.00365762 -0.357432
1990 0.001 0.00409602 -2.5428
1991 0.012 0.0070545 0.958032
1992 0.022 0.00730289 1.98872
1993 0.025 0.00291393 3.87615
1994 0.007 0.00449946 0.79701
1995 0.009 0.00670281 0.531454
1996 0.005 0.00509187 -0.0328352
1997 0.005 0.00553622 -0.183718
1998 0.04 0.0145966 1.81797
1999 0.075 0.0569771 0.49564
2000 0.127 0.147724 -0.272601
2001 0.191 0.16881 0.222713
2002 0.134 0.213333 -0.8386
2003 0.183 0.283486 -0.789297
2004 0.203 0.322208 -0.833149
2005 0.119 0.389795 -2.13971
2006 0.151 0.399833 -1.75608
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 0.329949 2.99849
1983 0.52 0.548355 -0.0957497
1984 0.42 0.423881 -0.0165866
1985 0.49 0.394908 0.389084
1986 0.28 0.448595 -0.849992
1987 0.51 0.22118 1.50661
1988 0.37 0.306654 0.338647
1989 0.24 0.21553 0.193935
1990 0.07 0.205766 -1.94449
1991 0.12 0.0840456 0.642244
1992 0.08 0.159322 -1.24235
1993 0.41 0.16942 1.59379
1994 0.22 0.189692 0.267307

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1995  0.03  0.246105  -3.79533
1996  0.2   0.297277  -0.714765
1997  1.03   0.660607   0.800982
1998  0.96   1.15641   -0.335688
1999  0.36   0.947892  -1.74592
2000  1.91   1.04512   1.08739
2001  1.24   1.08396   0.242545
2002  0.63   0.988947  -0.813183
2003  1.38   1.31584   0.0858589
2004  2.08   1.27878   0.877282
2005  1.3    1.41187   -0.148875
2006  1.38   0.947144  0.678772
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   0.0594143  2.18892
1983  0.07   0.0645343  0.146612
1984  0.11   0.0782054  0.61521
1985  0.1    0.0531232  1.14074
1986  0.02   0.0543114  -1.80159
1987  0.13   0.0503848  1.70933
1988  0.02   0.0324955  -0.875307
1992  0.01   0.0119132  -0.31571
1993  0.11   0.0217518  2.9229
1994  0.07   0.0292425  1.57412
1997  0.01   0.046889   -2.78658
1998  0.03   0.1762    -3.19276
1999  0.09   0.330825  -2.34761
2000  0.35   0.330618  0.102736
2001  0.45   0.332799  0.544097
2002  0.3    0.412013  -0.572164
2003  0.4    0.403177  -0.0142652
2004  0.49   0.546788  -0.197751
2005  0.78   0.513041  0.755508
2006  0.69   0.55165   0.403558
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   0.196469  -0.260964
1991  0.07   0.248455  -2.28447
1992  0.15   0.211253  -0.61752
1993  0.11   0.241986  -1.42178
1994  0.08   0.255192  -2.0919
1995  0.2    0.293437  -0.691318
1996  0.41   0.352133  0.274381
1997  0.17   0.262898  -0.78622
1998  0.07   0.265385  -2.40334
1999  0.26   0.291027  -0.203304
2000  0.63   0.232264  1.79949
2001  0.42   0.286291  0.69114
2002  0.81   0.26966   1.98349

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2003  1.48  0.303918  2.85483
2004  0.54  0.208444  1.71664
2005  0.55  0.301671  1.08308
2006  0.19  0.15581  0.357768
index number 28
units = 2
month = 1
starting and ending ages for selectivity = 3  8
selectivity choice = -1
  year, obs index, pred index, standardized residual
1990  0.1  0.0950919  0.0907569
1991  0.08  0.252512  -2.07287
1992  0.18  0.276847  -0.776371
1993  0.14  0.248581  -1.03537
1994  0.05  0.296865  -3.21228
1995  0.22  0.340454  -0.787453
1996  0.53  0.61823  -0.277693
1997  0.52  0.766059  -0.698687
1998  0.36  0.604125  -0.933572
1999  0.61  0.609635  0.00107831
2000  1.89  0.653805  1.91433
2001  0.55  0.531095  0.0630783
2002  1.11  0.666622  0.919531
2003  2.25  0.640499  2.26584
2004  1.53  0.722452  1.35321
2005  1.89  0.494558  2.41774
2006  1.09  0.711703  0.768732
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  5.01494  -0.890885
1989  0.51  1.34674  -1.75114
1990  1.44  3.01287  -1.33135
1991  2.69  3.81007  -0.627769
1992  3  3.23958  -0.138556
1993  5.69  3.71086  0.77085
1994  1.07  3.91337  -2.33852
1995  2.93  4.49987  -0.773734
1996  5.1  5.39998  -0.103071
1997  8.25  4.03156  1.29133
1998  5.8  4.06968  0.638925
1999  6.12  4.46291  0.569437
2000  3.91  3.56179  0.168211
2001  3.32  4.39028  -0.503918
2002  9.11  4.13524  1.42436
2003  5.61  4.6606  0.334358
2004  6.27  3.19649  1.21498
2005  5.99  4.62614  0.465938
2006  5.74  2.38935  1.58055
index number 30
units = 2
month = 1
starting and ending ages for selectivity = 3  3
selectivity choice = -1

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year, obs index, pred index, standardized residual
1988 1.03 1.22293 -0.30963
1989 0.18 0.734702 -2.53647
1990 0.11 0.203657 -1.1108
1991 0.27 0.5408 -1.25268
1992 0.57 0.592918 -0.0710883
1993 0.2 0.532381 -1.76559
1994 0.08 0.63579 -3.73813
1995 0.28 0.729144 -1.72599
1996 2.7 1.32405 1.28501
1997 5.25 1.64065 2.09758
1998 2.67 1.29384 1.30648
1999 3.46 1.30564 1.75753
2000 1.82 1.40024 0.472832
2001 1.18 1.13744 0.066253
2002 4.13 1.42769 1.91559
2003 2.55 1.37174 1.11812
2004 2.49 1.54726 0.858043
2005 1.24 1.05918 0.284235
2006 3.22 1.52424 1.34872
index number 31
units = 2
month = 1
starting and ending ages for selectivity = 4 4
selectivity choice = -1

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year, obs index, pred index, standardized residual
1990 0.03 0.0783445 -1.7311
1991 0.02 0.0319999 -0.847593
1992 0.06 0.0606611 -0.0197615
1993 0.01 0.0645057 -3.36181
1995 0.05 0.0937032 -1.13272
1996 0.18 0.113187 0.836624
1997 1.02 0.251523 2.52478
1998 0.29 0.440298 -0.753039
1999 0.65 0.360905 1.06103
2000 0.45 0.397924 0.221794
2001 0.41 0.412711 -0.0118832
2002 1.28 0.376537 2.20662
2003 0.57 0.500999 0.232696
2004 0.57 0.486888 0.284218
2005 0.53 0.537564 -0.0255538
2006 0.48 0.36062 0.515697
index number 32
units = 2
month = 1
starting and ending ages for selectivity = 5 8
selectivity choice = -1

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year, obs index, pred index, standardized residual
1992 0.02 0.0114097 1.01218
1993 0.01 0.0208324 -1.32355
1994 0.02 0.0280065 -0.607208
1995 0.16 0.0340469 2.79062
1996 0.05 0.0273516 1.08789
1997 0.18 0.0449071 2.50375
1998 0.04 0.168753 -2.59607
1999 0.18 0.316842 -1.01972
2000 0.22 0.316644 -0.656704

```

```

2001  0.15  0.318733  -1.35924
2002  0.81  0.394598  1.29693
2003  0.51  0.386136  0.501742
2004  0.43  0.523677  -0.355428
2005  0.32  0.491356  -0.773377
2006  0.4   0.528333  -0.501815
index number 33
units = 2
month = 1
starting and ending ages for selectivity = 1 1
selectivity choice = -1
  year, obs index, pred index, standardized residual
1985  0.24  0.0875388  1.81882
1986  0.172  0.0966126  1.04017
1987  0.075  0.0734421  0.0378544
1988  0.015  0.0199672  -0.515841
1990  0.032  0.0566985  -1.03156
1991  0.036  0.0485499  -0.539344
1992  0.013  0.0551377  -2.60568
1993  0.084  0.0582901  0.658928
1994  0.132  0.0664654  1.23734
1995  0.023  0.0771955  -2.18362
1996  0.069  0.0575173  0.328255
1997  0.033  0.0578618  -1.01269
1999  0.044  0.0507513  -0.257428
2000  0.012  0.0624614  -2.97494
2001  0.021  0.0587661  -1.85576
2002  0.442  0.0661368  3.42568
2004  0.255  0.0656517  2.44701
2005  0.067  0.033922  1.22744
2006  0.098  0.0644636  0.755378
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  1.80339  0.414979
1983  5.01  1.99535  1.66023
1984  1.58  1.13756  0.592481
1985  1.26  1.36516  -0.144557
1986  1.26  1.50666  -0.32242
1987  0.39  1.14532  -1.94278
1988  0.54  0.311386  0.992825
1989  1.24  0.705588  1.01681
1990  2.54  0.884208  1.90298
1991  2.64  0.757131  2.25242
1992  0.89  0.859867  0.0621154
1993  0.5   0.909029  -1.07801
1994  2.41  1.03652  1.52162
1995  0.63  1.20386  -1.16781
1996  0.81  0.896976  -0.183936
1997  0.89  0.902348  -0.0248493
1998  0.73  0.989671  -0.548821
1999  0.53  0.791461  -0.723164
2000  0.57  0.97408  -0.966356
2001  0.47  0.916452  -1.20426

```

```

2002  0.77  1.0314  -0.527092
2003  0.44  0.707365 -0.856197
2004  1.3   1.02383  0.430669
2005  0.35  0.52901  -0.744932
2006  0.8   1.0053   -0.411952
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  15.2728  -2.70498
1983  17.699  16.8985  0.0834698
1984  13.31   9.63392  0.582899
1985  12.843  11.5614  0.18958
1986  59.526  12.7598  2.77741
1987  7.584   9.69965  -0.443722
1988  1.763   2.63711  -0.726163
1989  2.855   5.97557  -1.33199
1990  4.733   7.48829  -0.827359
1991  7.337   6.41209  0.242997
1992  8.487   7.28215  0.276115
1993  4.145   7.6985  -1.11652
1994  22.311  8.77823  1.68221
1995  13.067  10.1954  0.447521
1996  6.493   7.59643  -0.283047
1997  7.997   7.64192  0.0819045
1998  14.983  8.38146  1.04758
1999  8.565   6.70283  0.442108
2000  9.874   8.24941  0.324182
2001  13.543  7.76136  1.00397
2002  5.406   8.73483  -0.865281
2003  8.18    5.99062  0.561748
2004  6.993   8.67076  -0.387812
2005  2.198   4.48015  -1.28421
2006  9.658   8.51384  0.227395
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   0.42419  -1.64899
1989  1   0.961196  0.0713718
1990  1.28   1.20452  0.109601
1991  1   1.03141  -0.0557768
1992  1.1   1.17137  -0.113361
1993  2.55   1.23834  1.30263
1994  1.66   1.41202  0.291786
1995  4.95   1.63997  1.99222
1996  1.66   1.22192  0.55255
1997  1.65   1.22924  0.530884
1998  0.67   1.34819  -1.261
1999  1.03   1.07818  -0.0824413
2000  0.95   1.32695  -0.602653
2001  0.62   1.24845  -1.26226
2002  1.51   1.40504  0.129928

```

```

2003 0.6 0.963618 -0.85438
2004 0.9 1.39473 -0.789992
2005 3.11 0.720652 2.63695
2006 0.81 1.36949 -0.947062
index number 37
units = 2
month = 1
starting and ending ages for selectivity = 1 1
selectivity choice = -1
year, obs index, pred index, standardized residual
1982 0.55 0.523346 0.0895843
1983 0.96 0.579053 0.911683
1984 0.18 0.330121 -1.09376
1985 0.59 0.39617 0.718248
1986 0.39 0.437235 -0.206172
1987 0.07 0.332374 -2.80925
1988 0.06 0.0903647 -0.738502
1989 0.31 0.204762 0.747904
1990 0.44 0.256598 0.9725
1991 0.76 0.21972 2.23793
1992 0.99 0.249534 2.48526
1993 0.23 0.263801 -0.247273
1994 0.75 0.3008 1.64762
1995 0.93 0.34936 1.76566
1996 0.11 0.260303 -1.55338
1997 0.17 0.261862 -0.7791
1998 0.38 0.287204 0.504911
1999 0.21 0.229683 -0.161569
2000 0.22 0.282679 -0.452081
2001 0.12 0.265955 -1.4352
2002 0.06 0.299313 -2.8983
2003 0.18 0.205278 -0.236981
2004 0.36 0.297117 0.346209
2005 0.16 0.153519 0.0745648
2006 0.31 0.29174 0.109481
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 0.287844 0.190984
1987 0.26 0.218811 0.311039
1988 0.01 0.0594895 -3.21582
1989 0.14 0.1348 0.068252
1990 0.36 0.168925 1.36453
1991 0.38 0.144648 1.74183
1992 0.37 0.164275 1.46428
1993 0.05 0.173667 -2.24543
1994 0.57 0.198024 1.90662
1995 0.3 0.229993 0.479218
1996 0.08 0.171365 -1.37376
1997 0.22 0.172391 0.439777
1998 0.39 0.189074 1.30567
1999 0.35 0.151206 1.51356
2000 0.21 0.186095 0.217938
2001 0.14 0.175085 -0.403294

```

```

2002  0.13  0.197046  -0.750029
2003  0.21  0.13514   0.794924
2004  0.27  0.1956   0.581319
2005  0.01  0.101066  -4.17157
2006  0.17  0.19206  -0.220033
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  0.0319418  -0.844316
1992  0.01  0.0310625  -2.04399
1993  0.01  0.0328385  -2.14425
1994  0.04  0.0374441  0.119076
1995  0.03  0.0434891  -0.669618
1996  0.02  0.0324031  -0.870171
1997  0.04  0.0325972  0.36907
1999  0.03  0.0285914  0.0867281
2000  0.09  0.0351884  1.69354
2001  0.01  0.0331066  -2.15892
2002  0.11  0.037259   1.95232
2003  0.05  0.0255534  1.21052
2004  0.1   0.0369857  1.79371
2005  0.04  0.0191104  1.33206
2006  0.04  0.0363164  0.174226

```

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
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
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 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
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
 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 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
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
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 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
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
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 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
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 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
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
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 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
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 26

1982	0	0
1983	0	0
1984	0	0
1985	0	0
1986	0	0
1987	0	0
1988	0	0
1992	0	0
1993	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 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
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 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
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
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 38

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 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
 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 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	46097.5	29432.6	0.582463
3	20491.6	13698.4	0.522845
4	3100.5	3444.62	-0.136638
5	692.968	836.223	-0.243953
6	234.633	202.709	0.189872
7	62.2202	49.1364	0.306488
8	17.4489	15.7722	0.131159

Fleet Obs, Initial, and Standardized Residual for Fmult

1	1.16717	0.9	0.337468
2	0.0183138	0.1	-2.20377

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 Standardized Residual for SRR steepness
0.999992 0.7 0.463037

Obs, Initial, and Standardized Residual for SRR unexpl S
208922 22026.5 2.92066

End of Deviations Section

Selectivity by age and year for each fleet

fleet 1 selectivity at age

0.0215206	0.416827	0.958726	0.998677	0.999959	0.999999	1	1
0.0215206	0.416827	0.958726	0.998677	0.999959	0.999999	1	1
0.0215206	0.416827	0.958726	0.998677	0.999959	0.999999	1	1
0.0215206	0.416827	0.958726	0.998677	0.999959	0.999999	1	1
0.0215206	0.416827	0.958726	0.998677	0.999959	0.999999	1	1
0.0215206	0.416827	0.958726	0.998677	0.999959	0.999999	1	1
0.0215206	0.416827	0.958726	0.998677	0.999959	0.999999	1	1
0.0215206	0.416827	0.958726	0.998677	0.999959	0.999999	1	1
0.0215206	0.416827	0.958726	0.998677	0.999959	0.999999	1	1
0.0215206	0.416827	0.958726	0.998677	0.999959	0.999999	1	1
0.0215206	0.416827	0.958726	0.998677	0.999959	0.999999	1	1
0.0215206	0.416827	0.958726	0.998677	0.999959	0.999999	1	1
0.00475839	0.0805912	0.616423	0.967173	0.998152	0.999899	0.999995	1
0.00475839	0.0805912	0.616423	0.967173	0.998152	0.999899	0.999995	1
0.00475839	0.0805912	0.616423	0.967173	0.998152	0.999899	0.999995	1
0.00475839	0.0805912	0.616423	0.967173	0.998152	0.999899	0.999995	1
0.00475839	0.0805912	0.616423	0.967173	0.998152	0.999899	0.999995	1


```

0.00475839 0.0805912 0.616423 0.967173 0.998152 0.999899 0.999995 1
0.00475839 0.0805912 0.616423 0.967173 0.998152 0.999899 0.999995 1
0.00475839 0.0805912 0.616423 0.967173 0.998152 0.999899 0.999995 1
0.00475839 0.0805912 0.616423 0.967173 0.998152 0.999899 0.999995 1
0.00475839 0.0805912 0.616423 0.967173 0.998152 0.999899 0.999995 1
0.00475839 0.0805912 0.616423 0.967173 0.998152 0.999899 0.999995 1
0.00475839 0.0805912 0.616423 0.967173 0.998152 0.999899 0.999995 1
fleet 2 selectivity at age
0.133702 1 0.0802054 0.00245455 7.25202e-05 2.14053e-06 6.31787e-08
1.86475e-09
0.133702 1 0.0802054 0.00245455 7.25202e-05 2.14053e-06 6.31787e-08
1.86475e-09
0.133702 1 0.0802054 0.00245455 7.25202e-05 2.14053e-06 6.31787e-08
1.86475e-09
0.133702 1 0.0802054 0.00245455 7.25202e-05 2.14053e-06 6.31787e-08
1.86475e-09
0.133702 1 0.0802054 0.00245455 7.25202e-05 2.14053e-06 6.31787e-08
1.86475e-09
0.133702 1 0.0802054 0.00245455 7.25202e-05 2.14053e-06 6.31787e-08
1.86475e-09
0.133702 1 0.0802054 0.00245455 7.25202e-05 2.14053e-06 6.31787e-08
1.86475e-09
0.133702 1 0.0802054 0.00245455 7.25202e-05 2.14053e-06 6.31787e-08
1.86475e-09
0.133702 1 0.0802054 0.00245455 7.25202e-05 2.14053e-06 6.31787e-08
1.86475e-09
0.133702 1 0.0802054 0.00245455 7.25202e-05 2.14053e-06 6.31787e-08
1.86475e-09
0.133702 1 0.0802054 0.00245455 7.25202e-05 2.14053e-06 6.31787e-08
1.86475e-09
0.133702 1 0.0802054 0.00245455 7.25202e-05 2.14053e-06 6.31787e-08
1.86475e-09
0.0518731 0.678162 1 0.611287 0.268835 0.0975971 0.0326055 0.010573
0.0518731 0.678162 1 0.611287 0.268835 0.0975971 0.0326055 0.010573
0.0518731 0.678162 1 0.611287 0.268835 0.0975971 0.0326055 0.010573
0.0518731 0.678162 1 0.611287 0.268835 0.0975971 0.0326055 0.010573
0.0518731 0.678162 1 0.611287 0.268835 0.0975971 0.0326055 0.010573
0.0518731 0.678162 1 0.611287 0.268835 0.0975971 0.0326055 0.010573
0.0518731 0.678162 1 0.611287 0.268835 0.0975971 0.0326055 0.010573
0.0518731 0.678162 1 0.611287 0.268835 0.0975971 0.0326055 0.010573
0.0518731 0.678162 1 0.611287 0.268835 0.0975971 0.0326055 0.010573
0.0518731 0.678162 1 0.611287 0.268835 0.0975971 0.0326055 0.010573
0.0518731 0.678162 1 0.611287 0.268835 0.0975971 0.0326055 0.010573
0.0518731 0.678162 1 0.611287 0.268835 0.0975971 0.0326055 0.010573
0.0518731 0.678162 1 0.611287 0.268835 0.0975971 0.0326055 0.010573
0.0518731 0.678162 1 0.611287 0.268835 0.0975971 0.0326055 0.010573
0.0518731 0.678162 1 0.611287 0.268835 0.0975971 0.0326055 0.010573
Fmult by year for each fleet
1982 1.16717 0.0183138
1983 1.48343 0.020692
1984 1.61285 0.0237742
1985 1.51984 0.00752327
1986 1.72254 0.0411853
1987 1.45364 0.0344747
1988 2.03915 0.0324351
1989 1.54132 0.20824
1990 1.13723 0.205264

```

1991 1.48912 0.201339
 1992 1.52686 0.131097
 1993 1.29194 0.187333
 1994 1.20967 0.137756
 1995 1.70026 0.0708106
 1996 1.38945 0.0604837
 1997 0.857348 0.0429645
 1998 0.778703 0.0528017
 1999 0.534662 0.114668
 2000 0.654278 0.0743959
 2001 0.474666 0.0689756
 2002 0.416379 0.0465999
 2003 0.39584 0.0478539
 2004 0.433208 0.0462099
 2005 0.457068 0.0517367
 2006 0.383415 0.047729

Directed F by age and year for each fleet

fleet 1 directed F at age
 0.0251183 0.486509 1.119 1.16563 1.16712 1.16717 1.16717 1.16717
 0.0319243 0.618333 1.4222 1.48146 1.48337 1.48343 1.48343 1.48343
 0.0347094 0.672278 1.54628 1.61071 1.61278 1.61284 1.61285 1.61285
 0.0327079 0.633511 1.45711 1.51783 1.51978 1.51984 1.51984 1.51984
 0.0370702 0.718002 1.65144 1.72026 1.72247 1.72254 1.72254 1.72254
 0.0312833 0.605918 1.39365 1.45172 1.45358 1.45364 1.45364 1.45364
 0.0438838 0.849974 1.95499 2.03645 2.03907 2.03915 2.03915 2.03915
 0.0331701 0.642463 1.4777 1.53928 1.54125 1.54132 1.54132 1.54132
 0.0244739 0.474029 1.09029 1.13573 1.13718 1.13723 1.13723 1.13723
 0.0320467 0.620704 1.42765 1.48715 1.48905 1.48911 1.48912 1.48912
 0.032859 0.636437 1.46384 1.52484 1.5268 1.52686 1.52686 1.52686
 0.0278033 0.538514 1.23861 1.29023 1.29188 1.29193 1.29194 1.29194
 0.0260328 0.504223 1.15974 1.20807 1.20962 1.20967 1.20967 1.20967
 0.00809047 0.137026 1.04808 1.64444 1.69711 1.70008 1.70025 1.70026
 0.00661154 0.111977 0.85649 1.34384 1.38688 1.38931 1.38944 1.38945
 0.00407959 0.0690947 0.52849 0.829205 0.855764 0.857262 0.857344 0.857348
 0.00370537 0.0627566 0.480011 0.753141 0.777264 0.778625 0.778699 0.778703
 0.00254413 0.0430891 0.329578 0.517111 0.533674 0.534609 0.53466 0.534662
 0.00311331 0.0527291 0.403312 0.6328 0.653069 0.654212 0.654275 0.654278
 0.00225864 0.0382539 0.292595 0.459084 0.473789 0.474618 0.474664 0.474666
 0.00198129 0.0335565 0.256666 0.402711 0.41561 0.416337 0.416377 0.416379
 0.00188356 0.0319012 0.244005 0.382846 0.395109 0.395801 0.395838 0.39584
 0.00206137 0.0349128 0.26704 0.418987 0.432408 0.433164 0.433206 0.433208
 0.0021749 0.0368356 0.281747 0.442064 0.456223 0.457022 0.457065 0.457068
 0.00182444 0.0308999 0.236346 0.370829 0.382707 0.383377 0.383413 0.383415
 fleet 2 directed F at age
 0.0024486 0.0183138 0.00146887 4.49522e-05 1.32812e-06 3.92012e-08 1.15704e-09 3.41506e-11
 0.00276657 0.020692 0.00165961 5.07896e-05 1.50059e-06 4.42918e-08 1.30729e-09 3.85854e-11
 0.00317867 0.0237742 0.00190682 5.83551e-05 1.72411e-06 5.08894e-08 1.50202e-09 4.43329e-11
 0.00100588 0.00752327 0.000603407 1.84663e-05 5.45589e-07 1.61038e-08 4.7531e-10 1.4029e-11
 0.00550657 0.0411853 0.00330328 0.000101091 2.98676e-06 8.81582e-08 2.60203e-09 7.68001e-11
 0.00460934 0.0344747 0.00276505 8.46199e-05 2.50011e-06 7.37939e-08 2.17806e-09 6.42865e-11

0.00433664 0.0324351 0.00260147 7.96136e-05 2.3522e-06 6.94281e-08 2.0492e-09 6.04832e-11
 0.0278422 0.20824 0.016702 0.000511137 1.51016e-05 4.45744e-07 1.31563e-08 3.88316e-10
 0.0274443 0.205264 0.0164633 0.000503832 1.48858e-05 4.39374e-07 1.29683e-08 3.82766e-10
 0.0269195 0.201339 0.0161485 0.000494197 1.46011e-05 4.30971e-07 1.27203e-08 3.75446e-10
 0.017528 0.131097 0.0105147 0.000321785 9.50719e-06 2.80617e-07 8.28254e-09 2.44463e-10
 0.0250469 0.187333 0.0150251 0.000459819 1.35854e-05 4.00991e-07 1.18355e-08 3.49329e-10
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 0.00367317 0.0480211 0.0708106 0.0432856 0.0190363 0.00691091 0.00230881 0.000748679
 0.00313748 0.0410178 0.0604837 0.0369729 0.0162601 0.00590303 0.0019721 0.000639493
 0.0022287 0.0291369 0.0429645 0.0262636 0.0115503 0.00419321 0.00140088 0.000454262
 0.00273899 0.0358081 0.0528017 0.032277 0.0141949 0.00515329 0.00172162 0.000558271
 0.00594819 0.0777635 0.114668 0.0700951 0.0308267 0.0111913 0.0037388 0.00121238
 0.00385915 0.0504525 0.0743959 0.0454773 0.0200002 0.00726082 0.00242571 0.000786587
 0.00357798 0.0467767 0.0689756 0.0421639 0.018543 0.00673182 0.00224898 0.000729278
 0.00241729 0.0316023 0.0465999 0.0284859 0.0125277 0.00454802 0.00151941 0.0004927
 0.00248233 0.0324527 0.0478539 0.0292525 0.0128648 0.0046704 0.0015603 0.000505959
 0.00239705 0.0313378 0.0462099 0.0282475 0.0124228 0.00450995 0.00150669 0.000488576
 0.00268375 0.0350859 0.0517367 0.031626 0.0139086 0.00504936 0.0016869 0.000547012
 0.00247586 0.032368 0.047729 0.0291762 0.0128312 0.00465822 0.00155623 0.000504638

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
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0.00445842 0.0662505 0.313249 0.447235 0.44483 0.437674 0.434712 0.433697
 0.00485865 0.0719215 0.333484 0.47369 0.470132 0.462071 0.458752 0.457615
 0.00430029 0.0632679 0.284075 0.400005 0.395538 0.388035 0.38497 0.38392

Average F for ages 4 to 8

Freport unweighted in .std and MCMC files

year	unweighted	Nweighted	Bweighted
1982	1.16686	1.16603	1.16616
1983	1.48303	1.48182	1.48201
1984	1.61242	1.6112	1.61138
1985	1.51943	1.51819	1.51838
1986	1.72209	1.72069	1.72089
1987	1.45326	1.45225	1.45249
1988	2.03861	2.03691	2.03718
1989	1.541	1.54001	1.54013
1990	1.13702	1.1364	1.13646
1991	1.48881	1.48825	1.48842
1992	1.52651	1.5254	1.52555
1993	1.29168	1.29088	1.29094
1994	1.20941	1.20863	1.20877
1995	1.70289	1.69252	1.69571
1996	1.39213	1.38344	1.38466
1997	0.860157	0.856479	0.857079
1998	0.784067	0.786331	0.786586
1999	0.554356	0.57827	0.574694
2000	0.664917	0.674681	0.672329
2001	0.485448	0.49604	0.493032
2002	0.422997	0.428309	0.426433
2003	0.402858	0.408729	0.40649
2004	0.43963	0.444377	0.442453
2005	0.464452	0.469907	0.467607
2006	0.390494	0.39498	0.392482

Population Numbers at the Start of the Year

74147.3 46097.5 20491.6 3100.5 692.968 234.633 62.2202 17.4489
 82039.7 55616.9 21454.6 5152.84 752.685 167.982 56.8748 19.3542
 46771.4 61100.1 22634.2 3983.17 912.135 132.991 29.6788 13.5023
 56129.1 34722.3 23487.3 3710.91 619.593 141.6 20.6442 6.72408
 61947.2 41843.7 14102.4 4215.41 633.452 105.56 24.123 4.67397
 47090.5 45773.5 15100.9 2078.41 587.654 88.121 14.6838 4.01228
 12802.8 35029.1 18602.8 2881.59 379.006 106.97 16.0397 3.41038
 29010.6 9406.9 11176 2025.31 292.822 38.4163 10.8417 1.97479
 36354.6 21044.7 3097.95 1933.57 338.218 48.8276 6.40555 2.14034
 31129.8 26613.1 8226.45 789.768 483.423 84.4779 12.1955 2.13984
 35353.8 22628.3 9019.25 1497.13 138.948 84.9296 14.8407 2.52215
 37375.2 25920.1 8098.39 1592.02 253.698 23.5068 14.3674 2.94154
 42617.1 27334.7 9671.4 1782.52 341.065 54.285 5.02968 3.70986
 49497.1 31431.3 11091.5 2312.62 414.625 79.237 12.6111 2.03897
 36879.6 37718.5 20141 2793.48 333.089 58.0453 11.1948 2.08237
 37100.5 28160.2 24957 6207.66 546.881 63.769 11.2011 2.57645
 40690.8 28426.5 19681.5 10866.7 2055.08 178.916 20.9851 4.55557
 32541.3 31173.2 19861 8907.25 3858.52 725.319 63.6335 9.1326
 40049.8 24878.9 21300 9820.88 3856.11 1708.79 327.279 33.1297
 37680.4 30665.9 17302.3 10185.8 3881.54 1532.02 686.815 145.709
 42406.4 28884.4 21717.5 9293.04 4805.44 1847.63 737.3 403.257
 29083.7 32554 20866.5 12364.8 4702.38 2439.06 944.609 587.154
 42095.4 22327.3 23536.4 12016.5 6377.37 2435.36 1272.7 805.149

21750.5 32313.3 16111.9 13267.2 5983.76 3183.32 1224.36 1052.22
41333.5 16689.5 23186.2 8900.22 6434.07 2912.23 1561.82 1126.47

q by index

index 1 q over time

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index 2 q over time

1992 0.000379715
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index 3 q over time

1992 0.000314579
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index 4 q over time

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index 5 q over time

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index 6 q over time

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index 7 q over time

1982 3.55425e-05
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index 8 q over time

1982 3.0458e-05
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index 9 q over time

1982 3.69596e-05
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index 10 q over time
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index 11 q over time
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index 12 q over time
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index 13 q over time

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index 14 q over time

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index 15 q over time

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index 16 q over time

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index 17 q over time
1982 6.64553e-05
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index 18 q over time
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index 19 q over time
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index 22 q over time

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index 23 q over time

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index 24 q over time

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index 25 q over time

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index 26 q over time

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 index 27 q over time
 1990 9.33582e-06
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 2003 9.33582e-06
 2004 9.33582e-06
 2005 9.33582e-06
 2006 9.33582e-06
 index 28 q over time
 1990 3.06951e-05
 1991 3.06951e-05
 1992 3.06951e-05
 1993 3.06951e-05
 1994 3.06951e-05
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 2002 3.06951e-05
 2003 3.06951e-05
 2004 3.06951e-05
 2005 3.06951e-05
 2006 3.06951e-05
 index 29 q over time
 1988 0.000143165
 1989 0.000143165
 1990 0.000143165
 1991 0.000143165
 1992 0.000143165
 1993 0.000143165
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2002 0.000143165
2003 0.000143165
2004 0.000143165
2005 0.000143165
2006 0.000143165

index 30 q over time

1988 6.57392e-05
1989 6.57392e-05
1990 6.57392e-05
1991 6.57392e-05
1992 6.57392e-05
1993 6.57392e-05
1994 6.57392e-05
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2001 6.57392e-05
2002 6.57392e-05
2003 6.57392e-05
2004 6.57392e-05
2005 6.57392e-05
2006 6.57392e-05

index 31 q over time

1990 4.05181e-05
1991 4.05181e-05
1992 4.05181e-05
1993 4.05181e-05
1995 4.05181e-05
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2001 4.05181e-05
2002 4.05181e-05
2003 4.05181e-05
2004 4.05181e-05
2005 4.05181e-05
2006 4.05181e-05

index 32 q over time

1992 8.21149e-05
1993 8.21149e-05
1994 8.21149e-05
1995 8.21149e-05
1996 8.21149e-05
1997 8.21149e-05
1998 8.21149e-05
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2002 8.21149e-05
2003 8.21149e-05
2004 8.21149e-05
2005 8.21149e-05
2006 8.21149e-05
index 33 q over time
1985 1.5596e-06
1986 1.5596e-06
1987 1.5596e-06
1988 1.5596e-06
1990 1.5596e-06
1991 1.5596e-06
1992 1.5596e-06
1993 1.5596e-06
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2001 1.5596e-06
2002 1.5596e-06
2004 1.5596e-06
2005 1.5596e-06
2006 1.5596e-06
index 34 q over time
1982 2.43217e-05
1983 2.43217e-05
1984 2.43217e-05
1985 2.43217e-05
1986 2.43217e-05
1987 2.43217e-05
1988 2.43217e-05
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2001 2.43217e-05
2002 2.43217e-05
2003 2.43217e-05
2004 2.43217e-05
2005 2.43217e-05
2006 2.43217e-05
index 35 q over time
1982 0.000205979
1983 0.000205979
1984 0.000205979
1985 0.000205979
1986 0.000205979

1987 0.000205979
1988 0.000205979
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2002 0.000205979
2003 0.000205979
2004 0.000205979
2005 0.000205979
2006 0.000205979

index 36 q over time

1988 3.31326e-05
1989 3.31326e-05
1990 3.31326e-05
1991 3.31326e-05
1992 3.31326e-05
1993 3.31326e-05
1994 3.31326e-05
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2002 3.31326e-05
2003 3.31326e-05
2004 3.31326e-05
2005 3.31326e-05
2006 3.31326e-05

index 37 q over time

1982 7.0582e-06
1983 7.0582e-06
1984 7.0582e-06
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1987 7.0582e-06
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2002 7.0582e-06
2003 7.0582e-06
2004 7.0582e-06
2005 7.0582e-06
2006 7.0582e-06

index 38 q over time

1986 4.6466e-06
1987 4.6466e-06
1988 4.6466e-06
1989 4.6466e-06
1990 4.6466e-06
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2002 4.6466e-06
2003 4.6466e-06
2004 4.6466e-06
2005 4.6466e-06
2006 4.6466e-06

index 39 q over time

1990 8.78618e-07
1992 8.78618e-07
1993 8.78618e-07
1994 8.78618e-07
1995 8.78618e-07
1996 8.78618e-07
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2002 8.78618e-07
2003 8.78618e-07
2004 8.78618e-07
2005 8.78618e-07
2006 8.78618e-07

Proportions of catch at age by fleet

fleet 1

Year 1 Obs = 0.145346 0.527962 0.285212 0.0262759 0.00921763 0.00325989
0.00188287 0.000843076
Year 1 Pred = 0.0501276 0.485472 0.385065 0.0598691 0.0133905 0.00453402
0.00120234 0.000338484
Year 2 Obs = 0.102313 0.592534 0.235019 0.046978 0.014927 0.00695731
0.000344634 0.000926205

Year 2 Pred = 0.0515077 0.515091 0.335066 0.0823855 0.0120416 0.00268746
 0.00090991 0.000310762
 Year 3 Obs = 0.0923461 0.514057 0.310783 0.0639504 0.0166714 0.00191047
 8.04408e-05 0.000201102
 Year 3 Pred = 0.0294064 0.553985 0.338951 0.0609848 0.0139734 0.00203737
 0.00045467 0.000207584
 Year 4 Obs = 0.0551004 0.389786 0.48609 0.0477735 0.0134101 0.0068132
 0.000811096 0.000216292
 Year 4 Pred = 0.0446351 0.406774 0.458692 0.0741354 0.0123853 0.00283055
 0.000412673 0.000134898
 Year 5 Obs = 0.0541701 0.481455 0.33418 0.114325 0.00955231 0.00423204
 0.00175327 0.000332517
 Year 5 Pred = 0.0567177 0.539261 0.296841 0.0906581 0.0136308 0.00227152
 0.000519095 0.000100926
 Year 6 Obs = 0.0342164 0.530752 0.359106 0.0546401 0.0180365 0.000828885
 0.000961507 0.00145884
 Year 6 Pred = 0.0401321 0.575437 0.323553 0.045623 0.0129078 0.0019356
 0.000322534 8.84532e-05
 Year 7 Obs = 0.019327 0.520696 0.382537 0.0562958 0.0169045 0.00318606
 0.00050029 0.000552952
 Year 7 Pred = 0.0135986 0.499142 0.411034 0.0648465 0.00853295 0.00240837
 0.000361125 7.70321e-05
 Year 8 Obs = 0.0135973 0.244752 0.573632 0.134542 0.0280693 0.00437341
 0.000715649 0.000318066
 Year 8 Pred = 0.0589844 0.261508 0.557855 0.103976 0.0150443 0.00197375
 0.000557027 0.000101825
 Year 9 Obs = 0.0381106 0.599356 0.22759 0.106817 0.0237252 0.00322061
 0.00085883 0.000322061
 Year 9 Pred = 0.0727537 0.615739 0.175262 0.113088 0.0197991 0.00285842
 0.000374988 0.000125786
 Year 10 Obs = 0.0053826 0.484685 0.447632 0.0464406 0.0135817 0.00200283
 0.000187765 8.76238e-05
 Year 10 Pred = 0.0486606 0.574966 0.32123 0.0317319 0.0194382 0.0033969
 0.000490386 8.63564e-05
 Year 11 Obs = 0.01193 0.544721 0.361714 0.068128 0.00908374 0.00423908
 0.000121116 6.2375e-05
 Year 11 Pred = 0.0570444 0.514044 0.358065 0.0610084 0.00566607 0.00346336
 0.000605194 0.000103222
 Year 12 Obs = 0.0148636 0.565594 0.372496 0.0378054 0.00484684 0.00297273
 0.00122787 0.000193874
 Year 12 Pred = 0.0551557 0.548635 0.319465 0.0647546 0.0103276 0.000956943
 0.000584885 0.0001202
 Year 13 Obs = 0.0546856 0.475376 0.397561 0.0573153 0.0123715 0.00161367
 0.000776954 0.000299127
 Year 13 Pred = 0.0549959 0.522105 0.342966 0.0651516 0.0124762 0.0019858
 0.000183991 0.000136231
 Year 14 Obs = 0.0207846 0.319422 0.53252 0.091242 0.0297887 0.00577766
 0.000375173 9.00414e-05
 Year 14 Pred = 0.0287613 0.285124 0.517332 0.137791 0.0252455 0.00484831
 0.000772906 0.000125466
 Year 15 Obs = 0.00721218 0.305647 0.549804 0.106069 0.0255535 0.00447653
 0.000994784 0.000242479
 Year 15 Pred = 0.0134081 0.217083 0.636136 0.116147 0.0141755 0.00248183
 0.000479369 8.95431e-05
 Year 16 Obs = 0.000317763 0.122736 0.576343 0.24285 0.0439307 0.0127105
 0.000794407 0.000317763

Year 16 Pred = 0.00938324 0.115482 0.632443 0.219956 0.0199016 0.00233026
0.000409806 9.46869e-05
Year 17 Obs = 0.00138878 0.116581 0.411079 0.383149 0.0756114 0.0106473
0.00146594 7.71545e-05
Year 17 Pred = 0.00922745 0.104514 0.454772 0.355379 0.0691876 0.0060533
0.000711051 0.000155079
Year 18 Obs = 0.000105218 0.0414558 0.426763 0.380993 0.111741 0.0324071
0.00536611 0.00116792
Year 18 Pred = 0.00677865 0.104288 0.438672 0.291278 0.131503 0.0249647
0.00219746 0.000317104
Year 19 Obs = 0 0.0624861 0.480027 0.317861 0.106896 0.0255895 0.00520717
0.00193409
Year 19 Pred = 0.00789122 0.0793243 0.438166 0.291966 0.118572 0.0528955
0.0101525 0.00103283
Year 20 Obs = 0 0.155561 0.362784 0.319844 0.115401 0.0324924 0.0108308
0.0030863
Year 20 Pred = 0.0073125 0.0970759 0.368907 0.321716 0.12702 0.0504645
0.0226699 0.00483395
Year 21 Obs = 9.43556e-05 0.0640675 0.434696 0.340718 0.119266 0.0278349
0.0117945 0.00152856
Year 21 Pred = 0.00721366 0.0808479 0.416407 0.265168 0.141703 0.0547542
0.0218809 0.0120265
Year 22 Obs = 0 0.0676562 0.371839 0.344235 0.139101 0.0496146 0.0200262
0.00752842
Year 22 Pred = 0.0044455 0.0819061 0.361364 0.319725 0.125718 0.0655412
0.0254204 0.0158792
Year 23 Obs = 0.00188235 0.041098 0.374195 0.341019 0.147294 0.0595293
0.0232941 0.0116878
Year 23 Pred = 0.00607367 0.0529814 0.381056 0.288777 0.158336 0.0607626
0.0317988 0.0202156
Year 24 Obs = 0.000249326 0.0587578 0.252733 0.332435 0.185748 0.0877627
0.0421361 0.0401781
Year 24 Pred = 0.00335535 0.0817784 0.276415 0.336998 0.157107 0.084024
0.0323676 0.0279542
Year 25 Obs = 0.000371652 0.0432045 0.378063 0.286822 0.162969 0.0790689
0.0336345 0.0158658
Year 25 Pred = 0.00627273 0.0417106 0.400065 0.229721 0.171729 0.0781265
0.0419607 0.0304145
fleet 2
Year 1 Obs = 0.212871 0.787129 0 0 0 0 0 0
Year 1 Pred = 0.206453 0.772093 0.0213553 9.75463e-05 6.43776e-07 6.43377e-
09 5.03567e-11 4.18427e-13
Year 2 Obs = 0.158085 0.841915 0 0 0 0 0 0
Year 2 Pred = 0.202025 0.78015 0.0176966 0.000127834 5.51327e-07 3.63172e-09
3.62926e-11 3.65846e-13
Year 3 Obs = 0.170732 0.829268 0 0 0 0 0 0
Year 3 Pred = 0.118613 0.862879 0.01841 9.73144e-05 6.57939e-07 2.83139e-09
1.86498e-11 2.51317e-13
Year 4 Obs = 0.162602 0.837398 0 0 0 0 0 0
Year 4 Pred = 0.214676 0.755476 0.0297066 0.000141057 6.95354e-07 4.69046e-
09 2.01836e-11 1.94737e-13
Year 5 Obs = 0.109729 0.890271 0 0 0 0 0 0
Year 5 Pred = 0.210855 0.774151 0.0148599 0.000133333 5.91535e-07 2.90951e-
09 1.96246e-11 1.12617e-13
Year 6 Obs = 0.0805471 0.919453 0 0 0 0 0 0
Year 6 Pred = 0.150469 0.833128 0.0163352 6.76708e-05 5.64933e-07 2.50039e-
09 1.22975e-11 9.95412e-14

Year 7 Obs = 0.0763889 0.923611 0 0 0 0 0 0
Year 7 Pred = 0.0641732 0.909586 0.0261194 0.000121063 4.70059e-07 3.9158e-09 1.73302e-11 1.09111e-13
Year 8 Obs = 0.303895 0.659853 0.0362514 0 0 0 0 0
Year 8 Pred = 0.352104 0.602808 0.0448416 0.000245544 1.04833e-06 4.05941e-09 3.3814e-11 1.82442e-13
Year 9 Obs = 0.313165 0.672856 0.0139787 0 0 0 0 0
Year 9 Pred = 0.232493 0.759821 0.00754166 0.000142966 7.38573e-07 3.14716e-09 1.21859e-11 1.20648e-13
Year 10 Obs = 0.172122 0.827878 0 0 0 0 0 0
Year 10 Pred = 0.176932 0.807293 0.0157279 4.56445e-05 8.25045e-07 4.25548e-09 1.81323e-11 9.42453e-14
Year 11 Obs = 0.341791 0.646836 0.0104987 0.000874891 0 0 0 0
Year 11 Pred = 0.219073 0.762318 0.0185167 9.2689e-05 2.54009e-07 4.58258e-09 2.3635e-11 1.18982e-13
Year 12 Obs = 0.237464 0.722774 0.0395405 0.000220897 0 0 0 0
Year 12 Pred = 0.203271 0.78078 0.0158538 9.44102e-05 4.443e-07 1.21509e-09 2.19201e-11 1.32961e-13
Year 13 Obs = 0.196259 0.67182 0.122943 0.00897756 0 0 0 0
Year 13 Pred = 0.210509 0.771715 0.0176773 9.8657e-05 5.5746e-07 2.61886e-09 7.1618e-12 1.56513e-13
Year 14 Obs = 0.154639 0.738519 0.0965323 0.0103093 0 0 0 0
Year 14 Pred = 0.0859848 0.657975 0.230155 0.0238832 0.00186467 0.000129778 6.91113e-06 3.63794e-07
Year 15 Obs = 0.0323009 0.834956 0.105752 0.0269912 0 0 0 0
Year 15 Pred = 0.0474209 0.592638 0.334802 0.0238159 0.00123864 7.85907e-05 5.07085e-06 3.07148e-07
Year 16 Obs = 0.0158494 0.52947 0.407628 0.047053 0 0 0 0
Year 16 Pred = 0.0455706 0.432921 0.45708 0.0619334 0.00238795 0.000101329 5.95278e-06 4.46002e-07
Year 17 Obs = 0.0119311 0.379585 0.483429 0.125055 0 0 0 0
Year 17 Pred = 0.0512786 0.448323 0.376086 0.1145 0.00949923 0.000301193 1.18186e-05 8.35836e-07
Year 18 Obs = 0.0376254 0.378344 0.467809 0.116221 0 0 0 0
Year 18 Pred = 0.0391998 0.465521 0.377501 0.0976577 0.0187881 0.0012926 3.80077e-05 1.77851e-06
Year 19 Obs = 0.00768693 0.262404 0.544025 0.185884 0 0 0 0
Year 19 Pred = 0.0510138 0.395833 0.421521 0.109429 0.0189379 0.00306168 0.000196302 6.47567e-06
Year 20 Obs = 0.00380491 0.470425 0.343826 0.176064 0.00588032 0 0 0
Year 20 Pred = 0.0458584 0.469924 0.344277 0.116973 0.0196802 0.00283359 0.000425218 2.94015e-05
Year 21 Obs = 0.0455251 0.356441 0.408174 0.18986 0 0 0 0
Year 21 Pred = 0.0477635 0.413211 0.410295 0.101793 0.0231805 0.00324605 0.000433327 7.72312e-05
Year 22 Obs = 0.0224967 0.462726 0.37715 0.110278 0.0172034 0.00441112 0.00441112 0.00132333
Year 22 Pred = 0.0309219 0.439769 0.374049 0.128938 0.0216047 0.00408185 0.000528855 0.000107125
Year 23 Obs = 0.0436105 0.277383 0.470588 0.182556 0.0147059 0.00456389 0.0035497 0.0030426
Year 23 Pred = 0.0485937 0.327201 0.453685 0.133952 0.0312977 0.00435274 0.000760936 0.000156866
Year 24 Obs = 0.100781 0.466406 0.326172 0.0828125 0.0117188 0.00507813 0.00390625 0.003125
Year 24 Pred = 0.0254366 0.478545 0.311832 0.148118 0.0294253 0.00570324 0.000733907 0.000205534

Year 25 Obs = 0.0755703 0.285646 0.507605 0.0936312 0.019962 0.00855513
 0.00522814 0.00380228
 Year 25 Pred = 0.0538803 0.276556 0.511379 0.114402 0.0364437 0.00600855
 0.00107802 0.000253378

Proportions of Discards at age by fleet
 fleet 1

Year 1 Obs = 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 1e-15
 Year 2 Obs = 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 1e-15
 Year 3 Obs = 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 1e-15
 Year 4 Obs = 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 1e-15
 Year 5 Obs = 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 1e-15
 Year 6 Obs = 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 1e-15
 Year 7 Obs = 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 1e-15
 Year 8 Obs = 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 1e-15
 Year 9 Obs = 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 1e-15
 Year 10 Obs = 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 1e-15
 Year 11 Obs = 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 1e-15
 Year 12 Obs = 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 1e-15
 Year 13 Obs = 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 1e-15
 Year 14 Obs = 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 1e-15
 Year 15 Obs = 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 1e-15
 Year 16 Obs = 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 1e-15
 Year 17 Obs = 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 1e-15
 Year 18 Obs = 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 1e-15
 Year 19 Obs = 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 1e-15
 Year 20 Obs = 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 1e-15
 Year 21 Obs = 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 1e-15
 Year 22 Obs = 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 1e-15
 Year 23 Obs = 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 1e-15
 Year 24 Obs = 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 1e-15
 Year 25 Obs = 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 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
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	0.201379	0.481665
Fmax	0.434226	0.851622
F30%SPR	0.318992	0.668277

F40%SPR	0.213929	0.501212				
Fmsy	0.434207	0.851591	SSBmsy	46077.8	MSY	15064.7
Fcurrent	0.390494	0.78256				

Stock-Recruitment Relationship Parameters

alpha = 39239.8
 beta = 0.416052
 unexpl = 208922
 steepness = 0.999992

Spawning Stock, Obs Recruits(year+1), Pred Recruits(year+1), standardized residual

init	xxxx	74147.3	39238.9	1.34719
1982	24658	82039.7	39239.2	1.5613
1983	24675.5	46771.4	39239.2	0.371725
1984	21059.6	56129.1	39239	0.757827
1985	18833.3	61947.2	39239	0.96662
1986	17757.8	47090.5	39238.9	0.386134
1987	18269.3	12802.8	39238.9	-2.37098
1988	10878.2	29010.6	39238.3	-0.639301
1989	7056.54	36354.6	39237.5	-0.161547
1990	9642.29	31129.8	39238.1	-0.490035
1991	9199.32	35353.8	39238	-0.220669
1992	10534.5	37375.2	39238.3	-0.102981
1993	12114.1	42617.1	39238.5	0.174854
1994	15155.3	49497.1	39238.7	0.491658
1995	20765.1	36879.6	39239	-0.131279
1996	23449.2	37100.5	39239.1	-0.118642
1997	24551.8	40690.8	39239.2	0.0769026
1998	27186	32541.3	39239.2	-0.396219
1999	28089.3	40049.8	39239.2	0.0432819
2000	30541.4	37680.4	39239.3	-0.0858197
2001	36127.8	42406.4	39239.4	0.164315
2002	40610.9	29083.7	39239.4	-0.634034
2003	44582.7	42095.4	39239.5	0.148725
2004	42488.8	21750.5	39239.4	-1.24909
2005	39688.9	41333.5	39239.4	0.110065
2006	40198.1	xxxx	39239.4	

Root Mean Square Error computed from Standardized Residuals

Component	#resids	RMSE
_Catch_Fleet_1	25	0.239059
_Catch_Fleet_2	25	0.0178829
Catch_Fleet_Total	50	0.169512
_Discard_Fleet_1	0	0
_Discard_Fleet_2	0	0
Discard_Fleet_Total	0	0
_Index_1	15	2.53144
_Index_2	15	1.58068
_Index_3	15	1.84289
_Index_4	15	2.38926
_Index_5	14	1.88974
_Index_6	25	1.85024
_Index_7	25	1.2775
_Index_8	24	1.86402
_Index_9	20	0.971662
_Index_10	15	1.19729
_Index_11	24	0.526106

_Index_12	24	0.997466
_Index_13	22	0.887212
_Index_14	25	1.6273
_Index_15	25	1.31531
_Index_16	24	1.02876
_Index_17	22	1.59
_Index_18	23	1.27512
_Index_19	23	1.2551
_Index_20	22	1.425
_Index_21	22	1.29857
_Index_22	22	0.93778
_Index_23	22	0.813408
_Index_24	22	1.45399
_Index_25	25	1.30423
_Index_26	20	1.57201
_Index_27	17	1.51662
_Index_28	17	1.46069
_Index_29	19	1.06949
_Index_30	19	1.59007
_Index_31	16	1.37813
_Index_32	15	1.44575
_Index_33	19	1.66748
_Index_34	25	1.05645
_Index_35	25	1.06615
_Index_36	19	1.07275
_Index_37	25	1.32323
_Index_38	21	1.56898
_Index_39	15	1.38275
Index_Total	802	1.41176
Nyear1	7	0.345998
Fmult_Year1	2	1.57647
_Fmult_devs_Fleet_1	0	0
_Fmult_devs_Fleet_2	0	0
Fmult_devs_Total	0	0
Recruit_devs	0	0
Fleet_Sel_params	12	1.8027
Index_Sel_params	0	0
q_year1	0	0
q_devs	0	0
SRR_steepness	1	-0.463037
SRR_unexpl_S	1	-2.92066

Projections not requested

that's all