

**ASAP ALTERNATIVE RUN (F08 MULTI SVAge.REP)**

Age Structured Assessment Program (ASAP) Version 2.0  
Start time for run: Fri Mar 28 13:51:17 2008

obj\_fun = 45830.2

Component	Lambda	obj_fun
__Catch_Fleet_1	10	1976.54
__Catch_Fleet_2	10	1543.55
__Catch_Fleet_3	10	3265.42
__Catch_Fleet_4	10	1171.79
__Catch_Fleet_5	10	1803.36
__Catch_Fleet_6	10	1211.4
Catch_Fleet_Total	60	10972.1
Discard_Fleet_Total	0	0
__Index_Fit_1	1	99.8189
__Index_Fit_2	1	76.6323
__Index_Fit_3	1	38.2846
__Index_Fit_4	1	674.6
__Index_Fit_5	1	792.804
__Index_Fit_6	1	13.0548
__Index_Fit_7	1	34.4386
__Index_Fit_8	1	182.317
__Index_Fit_9	1	32.3718
__Index_Fit_10	1	48.8763
__Index_Fit_11	1	36.7619
__Index_Fit_12	1	92.7366
__Index_Fit_13	1	20.4368
Index_Fit_Total	13	2143.13
Catch_Age_Comps	see_below	2472.97
Discard_Age_Comps	see_below	0
Survey_Age_Comps	see_below	29484.6
__Sel_Param_1	1	0.876883
__Sel_Param_2	1	7.80609
__Sel_Param_3	1	1.159
__Sel_Param_4	1	2.78348
__Sel_Param_5	0	0
__Sel_Param_6	0	0
__Sel_Param_7	0	0
__Sel_Param_8	0	0
__Sel_Param_9	1	27.1384
__Sel_Param_11	1	22.7558
__Sel_Param_12	1	16.4072
__Sel_Param_13	1	103.468
__Sel_Param_17	1	39.8586
__Sel_Param_18	1	52.679
__Sel_Param_20	1	13.3228
__Sel_Param_21	1	104.359
__Sel_Param_25	1	0.888378
__Sel_Param_26	1	9.53583
__Sel_Param_27	1	0.891698
__Sel_Param_28	1	3.97907
__Sel_Param_29	1	0.901386
__Sel_Param_30	1	4.58442
__Sel_Param_31	1	1.69186

__Sel_Param_32	1	0.698472
__Sel_Param_33	1	0.862118
__Sel_Param_34	1	3.27088
__Sel_Param_35	1	1.61987
__Sel_Param_36	1	0.424805
Sel_Params_Total	24	421.963
__Index_Sel_Param_1	1	1.31586
__Index_Sel_Param_3	1	0.881503
__Index_Sel_Param_4	1	5.79736
__Index_Sel_Param_5	1	0.289153
__Index_Sel_Param_6	1	5.60516
__Index_Sel_Param_9	1	0.442075
__Index_Sel_Param_10	1	0.168969
__Index_Sel_Param_17	1	0.168969
__Index_Sel_Param_18	1	0.443008
__Index_Sel_Param_25	1	0.728782
__Index_Sel_Param_26	1	0.357856
__Index_Sel_Param_27	1	0.168969
__Index_Sel_Param_31	1	0.867095
__Index_Sel_Param_32	1	3.55618
__Index_Sel_Param_35	1	0.168969
__Index_Sel_Param_36	1	0.760976
__Index_Sel_Param_41	1	0.888247
__Index_Sel_Param_42	1	2.14515
__Index_Sel_Param_43	1	1.40355
Index_Sel_Params_Total	19	26.1578
q_year1_Total	0	0
q_devs_Total	130000	0
__Fmult_year1_fleet_1	1	0.442467
__Fmult_year1_fleet_2	1	-0.818903
__Fmult_year1_fleet_3	1	119.098
__Fmult_year1_fleet_4	1	119.098
__Fmult_year1_fleet_5	1	-0.27683
__Fmult_year1_fleet_6	1	-2.15671
Fmult_year1_fleet_Total	6	235.386
Fmult_devs_fleet_Total	0	0
N_year_1	1	73.9121
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	0.241008
1983	33	0.703232
1984	43	1.70392
1985	379	16.22
1986	39	1.71089
1987	46	4.03722
1988	663	73.8028
1989	92	0.68642
1990	2270	30.6753
1991	58	4.62533
1992	173	27.9117
1993	415	0.817513
1994	106	10.4028

1995	75	11.3122
1996	222	65.9931
1997	267	29.1057
1998	151	44.5803
1999	187	45.0792
2000	125	126.574
2001	215	53.2007
2002	61	52.8198
2003	236	540.394
2004	139	440.712
2005	368	44.8789
2006	194	380.616

Total 6588 2008.8

Input and Estimated effective sample sizes for fleet 2

1982	10	0.0957991
1983	10	0.404572
1984	10	2.50319
1985	10	0.599177
1986	10	0.756592
1987	10	3.91203
1988	10	0.611378
1989	10	0.579011
1990	10	0.619397
1991	10	0.766801
1992	10	0.246268
1993	10	0.679388
1994	10	0.753415
1995	10	6.29289
1996	10	25.1849
1997	10	11.9335
1998	10	6.88701
1999	10	22.2499
2000	10	7.01976
2001	10	27.8323
2002	10	7.90409
2003	10	8.73044
2004	10	20.8715
2005	10	25.1157
2006	10	8.37452

Total 250 190.924

Input and Estimated effective sample sizes for fleet 3

1982	0	0.27197
1983	0	0.00643108
1984	0	0.011243
1985	0	0.0657306
1986	0	0.0187932
1987	0	0.0216768
1988	0	0.0880965
1989	10	0.0778081
1990	10	0.14547
1991	10	0.363032
1992	10	0.0965035
1993	10	0.0163067
1994	10	0.162001
1995	10	0.0810745
1996	10	0.197019
1997	10	0.138381

1998	10	0.129164
1999	10	0.145954
2000	10	0.111016
2001	10	0.082808
2002	10	0.100124
2003	10	0.200913
2004	10	0.15029
2005	10	0.0913496
2006	10	0.172197

Total 180 2.94535

Input and Estimated effective sample sizes for fleet 4

1982	0	0.301304
1983	0	1.05703
1984	0	0.128103
1985	0	0.0455786
1986	0	0.241491
1987	0	0.0917117
1988	0	0.0573292
1989	0	0.285143
1990	0	0.0652916
1991	0	0.148446
1992	0	0.10273
1993	0	0.436069
1994	10	0.0666308
1995	10	0.378404
1996	10	0.0578331
1997	10	0.314728
1998	10	0.280872
1999	10	0.306507
2000	10	0.289745
2001	10	0.150844
2002	10	0.269742
2003	10	0.276941
2004	10	0.713166
2005	10	0.838495
2006	10	0.591872

Total 130 7.49601

Input and Estimated effective sample sizes for fleet 5

1982	10	0.128276
1983	10	0.49279
1984	10	4.03153
1985	10	0.824078
1986	10	1.02304
1987	10	4.90925
1988	10	0.708588
1989	10	0.891267
1990	10	0.855972
1991	10	1.18493
1992	10	0.281373
1993	10	0.977105
1994	10	1.50332
1995	10	34.912
1996	10	772.296
1997	10	31.7885
1998	10	15.5305
1999	10	8.66238
2000	10	24.0074

2001	10	29.143
2002	10	8.7636
2003	10	9.70986
2004	10	13.9248
2005	10	10.4823
2006	10	8.69858
Total	250	985.73

Input and Estimated effective sample sizes for fleet 6

1982	10	0.474685
1983	10	27.8293
1984	10	11.3501
1985	10	2.69443
1986	10	12.7006
1987	10	6.74465
1988	10	1.7653
1989	10	24.0472
1990	10	4.52262
1991	10	4.46393
1992	10	2.09493
1993	10	10.5111
1994	10	4.8728
1995	10	6.83062
1996	10	2.59822
1997	10	23.1824
1998	10	19.6278
1999	10	8.65241
2000	10	13.7124
2001	10	99.7269
2002	10	42.3543
2003	10	348.973
2004	10	58.3459
2005	10	52.3199
2006	10	222.82
Total	250	1013.22

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

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  
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  
 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	5970.07	2.33513
1983	10201	7852.01	2.62369
1984	11455	10788.6	0.600826
1985	10767	10416.3	0.331967
1986	9500	9559.79	-0.0628995
1987	9945	9774.71	0.173149
1988	11616	7893.64	3.87289
1989	6218	5589.29	1.06862
1990	2962	3466.26	-1.57603
1991	4629	4799.79	-0.363218
1992	6361	6927.82	-0.855725
1993	4401	4194.5	0.481776
1994	4969	4676.68	0.60781
1995	4911	4774.55	0.282472
1996	3947	3961.81	-0.037536
1997	3313	3376.72	-0.190968
1998	3730	3744.53	-0.038987
1999	3551	3563.09	-0.0340601
2000	3564	3576.5	-0.0351064
2001	3705	3691.18	0.0374708
2002	4723	4729.67	-0.0141448
2003	4835	4829.28	0.0118693
2004	6036	5986.71	0.0822069
2005	5984	5949.51	0.0579491
2006	4481	4478.2	0.00625614

fleet 2 total catches

1982	2864	2733.18	0.468694
1983	3201	3131.21	0.220985



1984	5674	5562.43	0.199092
1985	3907	3894.24	0.032792
1986	2687	2689.71	-0.0100884
1987	2326	2319.01	0.0301855
1988	3071	2830.39	0.817923
1989	1908	1940.74	-0.170582
1990	1237	1270.48	-0.26771
1991	1595	1613.21	-0.113816
1992	1168	1168.03	-0.000228875
1993	1313	1295.96	0.130937
1994	1620	1617.01	0.0185363
1995	2066	2047.66	0.0893968
1996	1913	1919.51	-0.0340733
1997	681	683.504	-0.0367987
1998	1346	1347.61	-0.0120205
1999	1271	1272.21	-0.00955747
2000	1521	1523.05	-0.013485
2001	1265	1263.49	0.0119431
2002	1850	1850.92	-0.00495953
2003	1614	1613.35	0.00403255
2004	2193	2186.47	0.0298806
2005	1841	1837.53	0.0189247
2006	1781	1780.52	0.00267546
fleet 3 total catches			
1982	0	2.17813e-05	-11.5918
1983	0	9.67825e-10	-0.00097019
1984	0	1.11636e-14	-1.11914e-08
1985	0	9.4865e-12	-9.51014e-06
1986	0	3.63228e-17	-3.64171e-11
1987	0	4.08966e-11	-4.09985e-05
1988	0	3.69612e-05	-15.5059
1989	709	214.057	12.006
1990	1214	1253.39	-0.320129
1991	1052	1047.28	0.0451271
1992	690	707.962	-0.257627
1993	846	827.937	0.216359
1994	434	432.886	0.0257655
1995	138	138.233	-0.016891
1996	355	356.58	-0.0445213
1997	239	238.927	0.00306082
1998	254	253.852	0.00586163
1999	1181	1171.09	0.084503
2000	592	591.019	0.0166176
2001	230	230.191	-0.0083295
2002	307	306.917	0.00272334
2003	445	445.298	-0.00671081
2004	170	170.058	-0.00341487
2005	153	152.946	0.00356469
2006	214	213.987	0.000589446
fleet 4 total catches			
1982	0	1.63688e-05	-9.72013
1983	0	8.9278e-08	-0.0891034
1984	0	1.16555e-08	-0.0116777
1985	0	1.92838e-12	-1.93319e-06
1986	0	7.7355e-14	-7.75478e-08
1987	0	4.43064e-20	-5.34235e-14
1988	0	1.1571e-13	-1.15999e-07

1989	0	1.96311e-20	-1.78078e-14
1990	0	4.10018e-18	-4.11361e-12
1991	0	3.59114e-16	-3.60003e-10
1992	0	2.08148e-10	-0.000208665
1993	0	1.39522e-05	-8.75652
1994	472	281.954	5.16521
1995	170	169.563	0.0257992
1996	108	108.092	-0.00851767
1997	86	86.0848	-0.00988289
1998	135	134.961	0.00290376
1999	367	366.883	0.00320173
2000	134	133.929	0.0052939
2001	238	237.673	0.0137981
2002	142	142.142	-0.010045
2003	83	83.02	-0.00241633
2004	74	74.0023	-0.000317263
2005	77	77.0006	-8.14275e-05
2006	74	73.998	0.000273206

fleet 5 total catches

1982	8267	7254.89	1.30922
1983	12687	11556.8	0.935381
1984	8512	8248.25	0.315544
1985	5665	5634.13	0.0547801
1986	8102	8124.26	-0.0275096
1987	5519	5476.03	0.0783624
1988	6634	5627.63	1.64929
1989	1435	1446.46	-0.0797169
1990	2329	2457.24	-0.537335
1991	3611	3709.92	-0.270917
1992	3242	3243.27	-0.00391181
1993	4006	3854.68	0.386
1994	4231	4198.86	0.0764339
1995	2459	2453.92	0.0207208
1996	4454	4574.9	-0.268497
1997	5382	5568.94	-0.34229
1998	5659	5663	-0.00708688
1999	3795	3791.77	0.00854194
2000	7470	7462.25	0.0104058
2001	5279	5251.1	0.053117
2002	3632	3648.82	-0.0463236
2003	5279	5293.14	-0.0268084
2004	4831	4814.65	0.033981
2005	4724	4705.24	0.039887
2006	4992	4989.97	0.00407941

fleet 6 total catches

1982	296	290.549	0.186339
1983	376	372.901	0.0829626
1984	415	414.238	0.0184242
1985	92	91.9744	0.00279134
1986	578	578.343	-0.00595467
1987	522	521.655	0.00662919
1988	341	334.757	0.18523
1989	45	45.0033	-0.000724943
1990	234	236.525	-0.107597
1991	429	430.001	-0.0233546
1992	344	345.698	-0.0493633
1993	910	898.999	0.121935

1994	687	682.235	0.0697731
1995	752	754.903	-0.0386219
1996	681	685.599	-0.0674722
1997	556	557.789	-0.0322068
1998	734	733.421	0.00791784
1999	711	709.573	0.0201415
2000	952	949.788	0.0233239
2001	1274	1273.05	0.00744881
2002	777	778.599	-0.0206129
2003	882	883.837	-0.0208526
2004	1034	1035.86	-0.0180007
2005	999	998.876	0.00124593
2006	795	795.002	-2.65654e-05

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

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
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
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 8
selectivity choice = -1
  year, obs index, pred index, standardized residual
1992 12.3 5.48081 5.08426
1993 13.6 7.08226 4.10389
1994 12.05 8.96872 1.85748
1995 10.93 11.6494 -0.400916
1996 31.25 16.0097 4.20671
1997 10.28 17.4853 -3.34084
1998 7.76 18.8163 -5.57106
1999 11.06 19.6273 -3.6077
2000 15.77 19.6145 -1.37215
2001 18.6 18.4942 0.035871
2002 22.68 19.9931 0.793115
2003 35.64 22.4528 2.90618
2004 17.77 22.585 -1.50812
2005 12.89 22.6145 -3.53568
2006 21.06 19.9067 0.354241
index number 2
units = 2
month = 1
starting and ending ages for selectivity = 2 8
selectivity choice = -1
  year, obs index, pred index, standardized residual
1982 2.27 0.455855 7.72779
1983 0.95 0.861621 0.470048
1984 0.66 1.83504 -4.92245
1985 2.38 1.55713 2.04225
1986 2.14 1.23156 2.6597
1987 0.93 1.50131 -2.30533
1988 1.5 1.12558 1.38233
1989 0.32 0.621465 -3.19516
1990 0.72 0.696578 0.159201
1991 1.08 0.845711 1.17715
1992 1.2 0.62016 3.17755
1993 1.27 0.664527 3.11785
1994 0.93 1.07545 -0.699471
1995 1.09 1.33639 -0.98103
1996 1.76 1.94962 -0.492546
1997 1.06 2.26412 -3.65324
1998 1.19 2.27324 -3.11571
1999 1.6 2.3008 -1.74862
2000 2.14 2.3343 -0.418354
2001 2.69 2.10003 1.19184
2002 2.47 2.32527 0.290656
2003 2.91 2.61708 0.510717
2004 3.03 2.6683 0.611926
2005 1.81 2.48403 -1.52381
2006 1.77 2.39662 -1.45894
index number 3
units = 2
month = 1
starting and ending ages for selectivity = 1 5

```

```

selectivity choice = -1
  year, obs index, pred index, standardized residual
1982  2.5  1.07036  2.80043
1983  2.89  2.915  -0.0284315
1984  2.08  3.46954  -1.68909
1985  1.9  2.25511  -0.565653
1986  1.44  2.58739  -1.93455
1987  0.9  2.33275  -3.14413
1988  0.89  1.46489  -1.64505
1989  0.57  1.22674  -2.53032
1990  0.89  1.23419  -1.07933
1991  1.7  1.42947  0.572184
1992  2.32  1.26798  1.99441
1993  1.07  1.63066  -1.3909
1994  1.53  1.74126  -0.42698
1995  2.4  2.05544  0.511627
1996  1.96  2.54451  -0.8616
1997  2.91  2.4249  0.602023
1998  4.51  2.44389  2.02269
1999  3.78  2.45719  1.42186
2000  3.19  2.27132  1.1213
2001  2.89  2.24543  0.833106
2002  2.55  2.42939  0.159957
2003  2.87  2.54297  0.399379
2004  4.07  2.42853  1.70461
2005  2.49  2.41209  0.104939
2006  2.77  2.01475  1.05096
index number 4
units = 2
month = 1
starting and ending ages for selectivity = 3 4
selectivity choice = -1
  year, obs index, pred index, standardized residual
1982  1.726  0.020156  21.4215
1983  1.049  0.00928056  22.7578
1984  0.145  0.833704  -8.41994
1985  1.296  1.66026  -1.19232
1986  0.707  0.774766  -0.440605
1987  0.653  1.0141  -2.1189
1988  1.128  1.28137  -0.613691
1989  0.465  0.358562  1.25126
1990  0.102  0.532544  -7.95564
1991  0.062  0.643778  -11.2652
1992  0.432  0.499167  -0.695656
1993  0.557  0.151569  6.26519
1994  1.265  0.905274  1.61063
1995  1.355  1.23149  0.460075
1996  0.8  1.81326  -3.93895
1997  1.46  2.62503  -2.82402
1998  1.871  2.69579  -1.75807
1999  1.99  2.37221  -0.845713
2000  2.864  2.56205  0.536297
2001  1.756  2.12303  -0.913681
2002  1.908  2.30589  -0.911769
2003  2.064  2.76895  -1.41439
2004  0.606  2.97883  -7.66544
2005  1.38  2.41771  -2.69926

```

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2006  3.415  2.55862  1.38978
index number 5
units = 2
month = 1
starting and ending ages for selectivity = 3  4
selectivity choice = -1
  year, obs index, pred index, standardized residual
1982  1.682  0.0175228  21.9711
1983  0.779  0.00739608  22.4179
1984  0.394  0.817284  -3.51228
1985  1.935  1.52009  1.16175
1986  0.893  0.598128  1.92926
1987  0.674  0.935341  -1.57738
1988  0.435  1.12501  -4.57404
1989  0.333  0.270861  0.994208
1990  0.011  0.495354  -18.3277
1991  0.294  0.523058  -2.77326
1992  0.186  0.433915  -4.07773
1993  0.508  0.130559  6.54021
1994  0.076  0.865006  -11.707
1995  0.506  1.00775  -3.31639
1996  1.396  1.66169  -0.838657
1997  1.859  2.28206  -0.987014
1998  0.852  2.06709  -4.26648
1999  1.319  1.88874  -1.72831
2000  2.797  2.02928  1.54457
2001  1.39  1.6199  -0.736787
2002  1.48  1.87588  -1.14104
2003  1.51  2.16977  -1.74503
2004  1.591  2.31309  -1.80141
2005  3.399  1.76156  3.16397
2006  4.304  2.12704  3.39279
index number 6
units = 2
month = 1
starting and ending ages for selectivity = 3  5
selectivity choice = -1
  year, obs index, pred index, standardized residual
1984  0.315  0.234541  0.76558
1985  0.423  0.458818  -0.210985
1986  0.19  0.217245  -0.347829
1987  0.104  0.301022  -2.75869
1988  0.267  0.358746  -0.766677
1989  0.089  0.104698  -0.421651
1990  0.041  0.158314  -3.5068
1991  0.246  0.178726  0.829269
1992  0.213  0.149582  0.917444
1993  0.184  0.0437486  3.72865
1994  0.357  0.256317  0.860006
1995  0.076  0.336891  -3.86506
1996  0.375  0.516544  -0.831232
1997  0.6  0.730271  -0.510018
1998  1.213  0.78147  1.14126
1999  1.117  0.768707  0.96999
2000  1.324  0.80793  1.28211
2001  0.825  0.682308  0.492929
2002  1.962  0.752256  2.48835

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2003  1.643  0.853245  1.70078
2004  1.422  0.962644  1.01267
2005  0.447  0.811039  -1.54641
2006  0.493  0.852492  -1.42154
index number 7
units = 2
month = 1
starting and ending ages for selectivity = 1  8
selectivity choice = -1
  year, obs index, pred index, standardized residual
1984  0.999  2.19887  -2.04785
1985  1.191  1.46491  -0.537318
1986  1.719  1.48811  0.37439
1987  1.401  1.59613  -0.338475
1988  1.42  1.00341  0.901358
1989  0.14  0.740873  -4.32491
1990  0.87  0.75219  0.377684
1991  1.26  0.916791  0.825399
1992  1.02  0.700082  0.976918
1993  1.109  0.919455  0.486519
1994  0.55  1.10917  -1.82076
1995  0.541  1.35342  -2.38018
1996  2.191  1.84207  0.450273
1997  2.5  1.90649  0.703505
1998  1.719  1.91252  -0.276911
1999  2.68  1.96056  0.811385
2000  1.91  1.8941  0.0217017
2001  4.417  1.79349  2.33949
2002  6.121  1.96374  2.95099
2003  3.388  2.15956  1.16894
2004  1.954  2.09724  -0.183624
2005  2.41  2.07279  0.391246
2006  1.316  1.83775  -0.866813
index number 8
units = 2
month = 1
starting and ending ages for selectivity = 3  4
selectivity choice = -1
  year, obs index, pred index, standardized residual
1982  0.59  0.012535  9.99757
1983  0.53  0.00520795  11.9991
1984  0.59  0.596057  -0.0265112
1985  0.3  1.09687  -3.36514
1986  0.64  0.418574  1.10217
1987  0.39  0.675729  -1.42671
1988  0.24  0.806146  -3.14501
1989  0.07  0.188724  -2.57438
1990  0.12  0.358349  -2.83973
1991  0.09  0.369657  -3.66711
1992  0.52  0.310399  1.3393
1993  0.29  0.0932474  2.94514
1994  0.03  0.628407  -7.89608
1995  0.2  0.713151  -3.3001
1996  1.04  1.19922  -0.369755
1997  0.99  1.63248  -1.29825
1998  0.45  1.4446  -3.02747
1999  2.26  1.32972  1.37675

```

2000	1.69	1.42723	0.438648
2001	0.93	1.13096	-0.507815
2002	1.78	1.32605	0.764205
2003	2.57	1.52287	1.35834
2004	2.08	1.62058	0.647849
2005	2.07	1.21818	1.37621
2006	1.57	1.50959	0.101846

index number 9  
units = 2  
month = 1  
starting and ending ages for selectivity = 1 8  
selectivity choice = -1

year	obs index	pred index	standardized residual
1990	0.29	0.326862	-0.31059
1991	0.15	0.390696	-2.48484
1992	0.34	0.312163	0.221722
1993	0.26	0.356115	-0.81653
1994	0.17	0.48488	-2.72055
1995	0.08	0.597296	-5.21835
1996	0.96	0.814881	0.42541
1997	0.73	0.899529	-0.542052
1998	0.43	0.919792	-1.97367
1999	0.9	0.929709	-0.084299
2000	2.61	0.929861	2.67894
2001	0.98	0.860493	0.337562
2002	2.03	0.942675	1.99108
2003	3.78	1.0425	3.34351
2004	2.17	1.05416	1.87405
2005	2.49	1.00105	2.36529
2006	1.32	0.927903	0.914878

index number 10  
units = 2  
month = 1  
starting and ending ages for selectivity = 1 8  
selectivity choice = -1

year	obs index	pred index	standardized residual
1988	4.26	5.88488	-0.838714
1989	1.69	4.39393	-2.48018
1990	2.86	4.79774	-1.34281
1991	3.97	5.05149	-0.625349
1992	4.75	5.56706	-0.411994
1993	8.46	5.81988	0.970969
1994	2.83	6.52782	-2.16947
1995	8.37	7.45167	0.301662
1996	9.69	8.26943	0.411494
1997	16.35	8.13913	1.81061
1998	9.47	8.46636	0.29079
1999	11.44	8.15948	0.877178
2000	7.35	8.08929	-0.248772
2001	5.68	7.98697	-0.884769
2002	16.84	8.6326	1.73447
2003	9.84	8.60594	0.347832
2004	10.66	8.94796	0.454436
2005	11.19	8.10941	0.835802
2006	10.65	7.33559	0.967731

index number 11  
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 0.38262 -0.463904
1987 0.26 0.119271 2.02278
1988 0.01 0.215559 -7.97047
1989 0.14 0.138853 0.0213615
1990 0.36 0.179477 1.80675
1991 0.38 0.146507 2.47396
1992 0.37 0.261448 0.9014
1993 0.05 0.193841 -3.51721
1994 0.57 0.22229 2.44424
1995 0.3 0.225908 0.736285
1996 0.08 0.157849 -1.76407
1997 0.22 0.152806 0.946018
1998 0.39 0.174819 2.08277
1999 0.35 0.128662 2.59764
2000 0.21 0.153688 0.810333
2001 0.14 0.161208 -0.366126
2002 0.13 0.170931 -0.710506
2003 0.21 0.115053 1.56187
2004 0.27 0.176284 1.10661
2005 0.01 0.0895175 -5.68937
2006 0.17 0.116876 0.972568

```

index number 12

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 17.9581 -4.31382
1983 17.699 27.7909 -1.17118
1984 13.31 10.019 0.737262
1985 12.843 15.0264 -0.407546
1986 59.526 16.2027 3.37761
1987 7.584 5.05074 1.05516
1988 1.763 9.12821 -4.26824
1989 2.855 5.87995 -1.87533
1990 4.733 7.60026 -1.22938
1991 7.337 6.20409 0.435355
1992 8.487 11.0715 -0.69003
1993 4.145 8.20855 -1.77357
1994 22.311 9.41328 2.23998
1995 13.067 9.56645 0.809409
1996 6.493 6.6844 -0.0754105
1997 7.997 6.47085 0.549663
1998 14.983 7.40302 1.83004
1999 8.565 5.4484 1.1742
2000 9.874 6.50818 1.082
2001 13.543 6.82662 1.77816
2002 5.406 7.23837 -0.757647
2003 8.18 4.87211 1.345
2004 6.993 7.46506 -0.169559
2005 2.198 3.79078 -1.41471
2006 9.658 4.94932 1.73532

```

index number 13

```

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 2.12047 0.176879
1983 5.01 3.28152 1.09831
1984 1.58 1.18303 0.751049
1985 1.26 1.7743 -0.88849
1986 1.26 1.9132 -1.08413
1987 0.39 0.596386 -1.1025
1988 0.54 1.07785 -1.79403
1989 1.24 0.694299 1.50541
1990 2.54 0.89743 2.70052
1991 2.64 0.732572 3.32761
1992 0.89 1.30731 -0.998054
1993 0.5 0.969257 -1.71815
1994 2.41 1.11151 2.00883
1995 0.63 1.1296 -1.51562
1996 0.81 0.789287 0.0672394
1997 0.89 0.764071 0.396002
1998 0.73 0.87414 -0.467735
1999 0.53 0.643341 -0.50304
2000 0.57 0.768479 -0.775535
2001 0.47 0.80608 -1.40025
2002 0.77 0.854698 -0.270882
2003 0.44 0.575294 -0.695922
2004 1.3 0.881466 1.00851
2005 0.35 0.447611 -0.638517
2006 0.8 0.58441 0.815071

```

Input and Estimated effective sample sizes for index 1

```

1992 100 43.808
1993 100 0.557621
1994 100 6.36623
1995 100 18.3641
1996 100 6.53857
1997 100 49.7465
1998 100 103.43
1999 100 28.5752
2000 100 17.5802
2001 100 31.5588
2002 100 17.0236
2003 100 107.507
2004 100 24.811
2005 100 81.0669
2006 100 245.687

```

Total 1500 782.621

Input and Estimated effective sample sizes for index 2

```

1982 200 0.0606725
1983 200 0.293579
1984 200 2.0214
1985 200 332.209
1986 200 33.4284
1987 200 348.478
1988 200 9.62086
1989 200 1.3145

```

1990	200	1.41036
1991	200	6.76998
1992	200	8.74047
1993	200	1.9755
1994	200	595.782
1995	200	3.65263
1996	200	3.73875
1997	200	69.8507
1998	200	218.949
1999	200	38.6778
2000	200	51.6254
2001	200	24.5799
2002	200	20.2172
2003	200	431.442
2004	200	231.349
2005	200	78.3861
2006	200	50.5252
Total	5000	2565.1

Input and Estimated effective sample sizes for index 3

1982	200	0.58047
1983	200	17.0632
1984	200	17.9177
1985	200	165.096
1986	200	270.859
1987	200	69.3924
1988	200	3.98785
1989	200	2.44251
1990	200	7.261
1991	200	5.98254
1992	200	175.091
1993	200	4889.34
1994	200	6.05223
1995	200	13.34
1996	200	73.9536
1997	200	145.684
1998	200	35.8999
1999	200	37.2363
2000	200	96.4518
2001	200	45.0888
2002	200	44.5106
2003	200	92.0734
2004	200	118.987
2005	200	895.183
2006	200	312.214

Total 5000 7541.69

Input and Estimated effective sample sizes for index 4

1982	100	8.39482
1983	100	75.2588
1984	100	0.007279
1985	100	10.49
1986	100	9.32903
1987	100	10.6897
1988	100	16.5352
1989	100	4.36532
1990	100	0.19391
1991	100	10.3053
1992	100	505.915

1993	100	11.6449
1994	100	258.151
1995	100	2.61214
1996	100	820.995
1997	100	16.682
1998	100	36.1991
1999	100	6.90336
2000	100	165.083
2001	100	363.932
2002	100	12.9416
2003	100	24.8506
2004	100	17.3341
2005	100	4.5544
2006	100	686.215
Total	2500	3079.58
Input and Estimated effective sample sizes for index 5		
1982	100	8.37857
1983	100	190.175
1984	100	0.00744726
1985	100	26.5766
1986	100	254.536
1987	100	26.7538
1988	100	9.84369
1989	100	3.40125
1990	100	0.0572045
1991	100	4.75626
1992	100	6.86439
1993	100	19.2885
1994	100	36.8234
1995	100	4.0852
1996	100	433.743
1997	100	28.9208
1998	100	199.245
1999	100	53.6636
2000	100	51.8603
2001	100	53.4689
2002	100	23.1804
2003	100	29.8531
2004	100	6.25595
2005	100	76.1243
2006	100	63.2604
Total	2500	1611.12
Input and Estimated effective sample sizes for index 6		
1984	100	0.108932
1985	100	6.42799
1986	100	78.7149
1987	100	126.549
1988	100	75.7512
1989	100	27.3127
1990	100	1.71234
1991	100	9.19794
1992	100	11.7058
1993	100	17.256
1994	100	19.3062
1995	100	115.552
1996	100	6.87779
1997	100	21.1447

1998	100	93.9813
1999	100	90.5935
2000	100	30.5635
2001	100	34.4762
2002	100	63.1121
2003	100	52.2532
2004	100	91.0283
2005	100	11.7648
2006	100	18.5144
Total	2300	1003.91

Input and Estimated effective sample sizes for index 7

1984	100	5.23319
1985	100	27.0258
1986	100	241.891
1987	100	21.2738
1988	100	5.41881
1989	100	0.830844
1990	100	7.17044
1991	100	76.0327
1992	100	23.6082
1993	100	17.7015
1994	100	7.57609
1995	100	13.982
1996	100	21.1072
1997	100	76.6199
1998	100	8.20103
1999	100	13.7323
2000	100	77.6332
2001	100	9.21016
2002	100	18.2604
2003	100	45.3026
2004	100	53.5258
2005	100	38.8581
2006	100	132.506
Total	2300	942.701

Input and Estimated effective sample sizes for index 8

1982	100	1186.22
1983	100	3076.57
1984	100	0.0230121
1985	100	1419.08
1986	100	158.295
1987	100	5931.68
1988	100	8.97249
1989	100	2.81165
1990	100	20.6031
1991	100	31.2626
1992	100	9.41173
1993	100	7.05119
1994	100	43.3997
1995	100	4.81478
1996	100	22.6548
1997	100	15.3148
1998	100	92.5184
1999	100	73.4836
2000	100	48.2867
2001	100	35.6999
2002	100	67.1358

2003	100	208.097
2004	100	8.4355
2005	100	305.25
2006	100	8.43741
Total	2500	12785.5
Input and Estimated effective sample sizes for index 9		
1990	100	7.26999
1991	100	7.14964
1992	100	23.6592
1993	100	1.66187
1994	100	9.1535
1995	100	5.0661
1996	100	49.8249
1997	100	121.29
1998	100	22.7625
1999	100	635.002
2000	100	141.918
2001	100	20.5765
2002	100	22.1646
2003	100	23.0369
2004	100	72.5359
2005	100	56.2258
2006	100	29.906
Total	1700	1249.2
Input and Estimated effective sample sizes for index 10		
1988	100	1.48793
1989	100	9.08255
1990	100	17.9709
1991	100	8.52108
1992	100	1.88521
1993	100	13.3611
1994	100	14.5023
1995	100	11.6114
1996	100	49.898
1997	100	12.2684
1998	100	4.73133
1999	100	14.0643
2000	100	8.43251
2001	100	7.76601
2002	100	9.02435
2003	100	9.83115
2004	100	4.05491
2005	100	10.1301
2006	100	5.59076
Total	1900	214.214
Input and Estimated effective sample sizes for index 11		
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

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 13

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

Survey proportions at age by index

Index number 1  
 Year 1992 Obs = -1 0.581582 0.385385 0.027027 0.003003 0.001001 0.002002 0  
 Year 1992 Pred = -1 0.537365 0.314276 0.0980548 0.0436503 0.00386281  
 0.0023173 0.000474207  
 Year 1993 Obs = -1 0.478 0.493 0.023 0.004 0.001 0.001 0  
 Year 1993 Pred = -1 0.893863 0.0723216 0.0246687 0.00626094 0.00253299  
 0.000206141 0.000146787  
 Year 1994 Obs = -1 0.311688 0.597403 0.0679321 0.021978 0 0 0.000999001  
 Year 1994 Pred = -1 0.538861 0.427038 0.0248372 0.00697561 0.00159757  
 0.000608286 8.25858e-05  
 Year 1995 Obs = -1 0.555 0.42 0.023 0.002 0 0 0  
 Year 1995 Pred = -1 0.506976 0.316061 0.165698 0.00847162 0.00214131  
 0.000458027 0.000194004  
 Year 1996 Obs = -1 0.709 0.267 0.019 0.004 0.001 0 0  
 Year 1996 Pred = -1 0.472151 0.439108 0.0705333 0.017222 0.000752887  
 0.000179613 5.36199e-05  
 Year 1997 Obs = -1 0.375 0.467 0.101 0.042 0.011 0.004 0  
 Year 1997 Pred = -1 0.302847 0.518141 0.161536 0.0142899 0.00302279  
 0.0001249 3.78952e-05  
 Year 1998 Obs = -1 0.216216 0.419419 0.295295 0.0540541 0.013013 0.001001  
 0.001001  
 Year 1998 Pred = -1 0.273668 0.361564 0.295673 0.0631165 0.00493703  
 0.000988716 5.21081e-05  
 Year 1999 Obs = -1 0.191191 0.434434 0.262262 0.0760761 0.025025 0.00500501  
 0.00600601  
 Year 1999 Pred = -1 0.299996 0.337169 0.215197 0.122377 0.0231886 0.00171769  
 0.000355397  
 Year 2000 Obs = -1 0.044044 0.413413 0.315315 0.159159 0.049049 0.011011  
 0.00800801  
 Year 2000 Pred = -1 0.221258 0.359498 0.237782 0.112644 0.0577043 0.0102113  
 0.000902332  
 Year 2001 Obs = -1 0.165 0.287 0.345 0.131 0.043 0.02 0.009  
 Year 2001 Pred = -1 0.279685 0.285787 0.241079 0.115825 0.0492584 0.0238481  
 0.00451774  
 Year 2002 Obs = -1 0.122 0.474 0.246 0.1 0.037 0.014 0.007  
 Year 2002 Pred = -1 0.271544 0.33982 0.18611 0.118634 0.0513998 0.0207585  
 0.0117349  
 Year 2003 Obs = -1 0.229 0.403 0.238 0.075 0.029 0.011 0.015  
 Year 2003 Pred = -1 0.257022 0.329992 0.234531 0.0918575 0.0520456 0.0213522  
 0.0132008  
 Year 2004 Obs = -1 0.082 0.488 0.257 0.092 0.035 0.023 0.023  
 Year 2004 Pred = -1 0.172008 0.344461 0.259843 0.134907 0.0471033 0.0252722  
 0.016406  
 Year 2005 Obs = -1 0.22977 0.312687 0.237762 0.103896 0.0539461 0.025974  
 0.035964  
 Year 2005 Pred = -1 0.262937 0.232891 0.259945 0.139669 0.0646131 0.0214249  
 0.0185202

Year 2006 Obs = -1 0.125 0.43 0.204 0.117 0.063 0.027 0.034  
Year 2006 Pred = -1 0.151531 0.399401 0.185364 0.145149 0.0695303 0.0305718  
0.018453  
Index number 2  
Year 1982 Obs = -1 0.308 0.63 0.053 0.009 0 0 0  
Year 1982 Pred = -1 0.0121701 0.0246488 0.00518885 0.957571 0.000175522  
0.000230868 1.43969e-05  
Year 1983 Obs = -1 0.336327 0.41018 0.199601 0.0319361 0.010978 0 0.010978  
Year 1983 Pred = -1 0.913533 0.00486505 0.00208339 0.000429736 0.079055  
1.43779e-05 1.983e-05  
Year 1984 Obs = -1 0.258 0.5 0.136 0.076 0 0.015 0.015  
Year 1984 Pred = -1 0.667018 0.326909 0.000363914 0.000150554 3.05695e-05  
0.00552583 2.3186e-06  
Year 1985 Obs = -1 0.231231 0.655656 0.0880881 0.017017 0.00800801 0 0  
Year 1985 Pred = -1 0.259011 0.666374 0.0733595 7.88576e-05 3.21071e-05  
6.409e-06 0.00113825  
Year 1986 Obs = -1 0.692 0.201 0.093 0.009 0.005 0 0  
Year 1986 Pred = -1 0.585649 0.261233 0.138159 0.0147185 1.56161e-05  
6.27488e-06 0.000217879  
Year 1987 Obs = -1 0.505 0.462 0.022 0.011 0 0 0  
Year 1987 Pred = -1 0.505739 0.428838 0.0416735 0.0214487 0.00226471  
2.37543e-06 3.31298e-05  
Year 1988 Obs = -1 0.4 0.54 0.047 0.013 0 0 0  
Year 1988 Pred = -1 0.209535 0.648954 0.123292 0.0116505 0.00593955  
0.000619922 9.45792e-06  
Year 1989 Obs = -1 0.187812 0.718282 0.0629371 0.030969 0 0 0  
Year 1989 Pred = -1 0.608735 0.225593 0.136773 0.0252312 0.00235817  
0.00118584 0.0001236  
Year 1990 Obs = -1 0.875 0.042 0.083 0 0 0 0  
Year 1990 Pred = -1 0.435843 0.494107 0.0408812 0.0241054 0.00442821  
0.000409149 0.000225875  
Year 1991 Obs = -1 0.731 0.25 0 0.019 0 0 0  
Year 1991 Pred = -1 0.485433 0.36111 0.134814 0.0108265 0.00649897 0.0011511  
0.000166784  
Year 1992 Obs = -1 0.642 0.342 0.008 0 0.008 0 0  
Year 1992 Pred = -1 0.417973 0.448613 0.0945238 0.0341934 0.00276903  
0.00160444 0.000324062  
Year 1993 Obs = -1 0.575 0.394 0.031 0 0 0 0  
Year 1993 Pred = -1 0.838432 0.124493 0.0286772 0.00591443 0.00218966  
0.000172117 0.000120966  
Year 1994 Obs = -1 0.376 0.57 0.043 0.011 0 0 0  
Year 1994 Pred = -1 0.395509 0.575211 0.0225931 0.0051563 0.00108065  
0.000397421 5.32557e-05  
Year 1995 Obs = -1 0.725 0.248 0.018 0 0 0 0.009  
Year 1995 Pred = -1 0.388949 0.444998 0.157549 0.00654559 0.00151401  
0.000312795 0.000130767  
Year 1996 Obs = -1 0.614 0.318 0.068 0 0 0 0  
Year 1996 Pred = -1 0.341234 0.582403 0.063177 0.0125352 0.000501472  
0.00011555 3.4047e-05  
Year 1997 Obs = -1 0.274 0.632 0.085 0.009 0 0 0  
Year 1997 Pred = -1 0.205842 0.646311 0.136074 0.00978174 0.0018935  
7.55679e-05 2.26296e-05  
Year 1998 Obs = -1 0.227227 0.437437 0.269269 0.0500501 0.00800801  
0.00800801 0  
Year 1998 Pred = -1 0.199366 0.483386 0.266951 0.046307 0.00331466  
0.000641154 3.33513e-05  
Year 1999 Obs = -1 0.137862 0.462537 0.2997 0.0809191 0.012987 0.00599401 0

Year 1999 Pred = -1 0.225234 0.464567 0.200239 0.0925324 0.016045 0.00114797  
0.000234431  
Year 2000 Obs = -1 0.0890891 0.481481 0.294294 0.0560561 0.0700701  
0.00900901 0  
Year 2000 Pred = -1 0.163627 0.487904 0.217936 0.0838958 0.0393287  
0.00672201 0.000586278  
Year 2001 Obs = -1 0.178 0.331 0.379 0.074 0.019 0.015 0.004  
Year 2001 Pred = -1 0.216779 0.406511 0.231581 0.0904122 0.0351864 0.0164538  
0.00307646  
Year 2002 Obs = -1 0.138 0.36 0.3 0.126 0.04 0.012 0.024  
Year 2002 Pred = -1 0.205486 0.471925 0.174544 0.0904124 0.0358468 0.0139831  
0.00780198  
Year 2003 Obs = -1 0.185814 0.442557 0.202797 0.0999001 0.044955 0.020979  
0.002997  
Year 2003 Pred = -1 0.194071 0.457274 0.219475 0.0698527 0.0362178 0.0143515  
0.00875739  
Year 2004 Obs = -1 0.0988024 0.478044 0.280439 0.0888224 0.0169661  
0.0199601 0.0169661  
Year 2004 Pred = -1 0.128136 0.470918 0.239899 0.101212 0.0323385 0.0167583  
0.0107376  
Year 2005 Obs = -1 0.144 0.359 0.32 0.083 0.055 0.028 0.011  
Year 2005 Pred = -1 0.210678 0.342453 0.258133 0.112705 0.0477126 0.0152809  
0.0130375  
Year 2006 Obs = -1 0.022977 0.587413 0.135864 0.140859 0.0509491 0.033966  
0.027972  
Year 2006 Pred = -1 0.110774 0.535831 0.167941 0.106863 0.0468443 0.019894  
0.0118518  
Index number 3  
Year 1982 Obs = 0.22 0.608 0.16 0.012 0 -1 -1 -1  
Year 1982 Pred = 0.726929 0.0112397 0.00665987 0.00137546 0.253796 -1 -1 -1  
Year 1983 Obs = 0.332 0.505 0.118 0.042 0.003 -1 -1 -1  
Year 1983 Pred = 0.413073 0.585553 0.000912297 0.00038329 7.90489e-05 -1 -1  
-1  
Year 1984 Obs = 0.0869131 0.667333 0.206793 0.033966 0.004995 -1 -1 -1  
Year 1984 Pred = 0.125116 0.765023 0.109691 0.000119799 4.95542e-05 -1 -1 -1  
Year 1985 Obs = 0.311 0.421 0.242 0.026 0 -1 -1 -1  
Year 1985 Pred = 0.288701 0.387829 0.291909 0.0315278 3.38858e-05 -1 -1 -1  
Year 1986 Obs = 0.271271 0.576577 0.0760761 0.0760761 0 -1 -1 -1  
Year 1986 Pred = 0.271323 0.604501 0.0788851 0.0409311 0.00435988 -1 -1 -1  
Year 1987 Obs = 0.0780781 0.644645 0.222222 0.033033 0.022022 -1 -1 -1  
Year 1987 Pred = 0.0938097 0.705815 0.175092 0.0166932 0.00859046 -1 -1 -1  
Year 1988 Obs = 0.067 0.697 0.202 0.034 0 -1 -1 -1  
Year 1988 Pred = 0.269987 0.349135 0.316343 0.0589642 0.00557103 -1 -1 -1  
Year 1989 Obs = 0.544 0.368 0.088 0 0 -1 -1 -1  
Year 1989 Pred = 0.207675 0.66874 0.0725042 0.0431265 0.00795461 -1 -1 -1  
Year 1990 Obs = 0.494 0.427 0.034 0.045 0 -1 -1 -1  
Year 1990 Pred = 0.266814 0.533436 0.176922 0.0143612 0.00846679 -1 -1 -1  
Year 1991 Obs = 0.447 0.494 0.053 0 0.006 -1 -1 -1  
Year 1991 Pred = 0.188046 0.622788 0.135537 0.0496433 0.00398611 -1 -1 -1  
Year 1992 Obs = 0.427 0.448 0.108 0.013 0.004 -1 -1 -1  
Year 1992 Pred = 0.378315 0.443305 0.139198 0.0287747 0.0104076 -1 -1 -1  
Year 1993 Obs = 0.215 0.748 0.028 0.009 0 -1 -1 -1  
Year 1993 Pred = 0.218104 0.740936 0.032186 0.00727387 0.00149995 -1 -1 -1  
Year 1994 Obs = 0.48951 0.437562 0.0589411 0.00699301 0.00699301 -1 -1 -1  
Year 1994 Pred = 0.234228 0.52972 0.225385 0.00868523 0.00198189 -1 -1 -1  
Year 1995 Obs = 0.388 0.483 0.117 0.008 0.004 -1 -1 -1  
Year 1995 Pred = 0.201655 0.548388 0.183552 0.0637568 0.00264847 -1 -1 -1

Year 1996 Obs = 0.056 0.633 0.291 0.02 0 -1 -1 -1  
Year 1996 Pred = 0.11382 0.566972 0.283101 0.030129 0.00597712 -1 -1 -1  
Year 1997 Obs = 0.058 0.443 0.392 0.1 0.007 -1 -1 -1  
Year 1997 Pred = 0.115619 0.416777 0.382841 0.0790787 0.00568379 -1 -1 -1  
Year 1998 Obs = 0.0840841 0.472472 0.361361 0.0730731 0.00900901 -1 -1 -1  
Year 1998 Pred = 0.131247 0.402142 0.285253 0.154552 0.0268057 -1 -1 -1  
Year 1999 Obs = 0.0559441 0.457542 0.393606 0.0819181 0.010989 -1 -1 -1  
Year 1999 Pred = 0.0960709 0.45734 0.27597 0.1167 0.0539201 -1 -1 -1  
Year 2000 Obs = 0.0690691 0.376376 0.382382 0.125125 0.047047 -1 -1 -1  
Year 2000 Pred = 0.124149 0.364669 0.318116 0.139408 0.0536581 -1 -1 -1  
Year 2001 Obs = 0.041958 0.470529 0.321678 0.127872 0.037962 -1 -1 -1  
Year 2001 Pred = 0.131725 0.439651 0.241196 0.134806 0.0526222 -1 -1 -1  
Year 2002 Obs = 0.024 0.459 0.337 0.137 0.043 -1 -1 -1  
Year 2002 Pred = 0.129094 0.426505 0.286564 0.103983 0.0538544 -1 -1 -1  
Year 2003 Obs = 0.063 0.456 0.359 0.087 0.035 -1 -1 -1  
Year 2003 Pred = 0.0830113 0.433112 0.298554 0.140585 0.0447377 -1 -1 -1  
Year 2004 Obs = 0.088 0.366 0.337 0.162 0.047 -1 -1 -1  
Year 2004 Pred = 0.133184 0.3053 0.328252 0.164058 0.0692055 -1 -1 -1  
Year 2005 Obs = 0.064 0.458 0.217 0.189 0.072 -1 -1 -1  
Year 2005 Pred = 0.0680919 0.470485 0.223736 0.165457 0.0722307 -1 -1 -1  
Year 2006 Obs = 0.112112 0.26026 0.44044 0.126126 0.0610611 -1 -1 -1  
Year 2006 Pred = 0.106435 0.285746 0.404369 0.124341 0.0791085 -1 -1 -1  
Index number 4  
Year 1982 Obs = -1 -1 0.918 0.082 -1 -1 -1 -1  
Year 1982 Pred = -1 -1 0.773547 0.226453 -1 -1 -1 -1  
Year 1983 Obs = -1 -1 0.571 0.429 -1 -1 -1 -1  
Year 1983 Pred = -1 -1 0.626753 0.373247 -1 -1 -1 -1  
Year 1984 Obs = -1 -1 0.538 0.462 -1 -1 -1 -1  
Year 1984 Pred = -1 -1 0.998454 0.00154567 -1 -1 -1 -1  
Year 1985 Obs = -1 -1 0.972 0.028 -1 -1 -1 -1  
Year 1985 Pred = -1 -1 0.867233 0.132767 -1 -1 -1 -1  
Year 1986 Obs = -1 -1 0.738 0.262 -1 -1 -1 -1  
Year 1986 Pred = -1 -1 0.576212 0.423788 -1 -1 -1 -1  
Year 1987 Obs = -1 -1 0.98 0.02 -1 -1 -1 -1  
Year 1987 Pred = -1 -1 0.880949 0.119051 -1 -1 -1 -1  
Year 1988 Obs = -1 -1 0.891 0.109 -1 -1 -1 -1  
Year 1988 Pred = -1 -1 0.791012 0.208988 -1 -1 -1 -1  
Year 1989 Obs = -1 -1 0.781 0.219 -1 -1 -1 -1  
Year 1989 Pred = -1 -1 0.542558 0.457442 -1 -1 -1 -1  
Year 1990 Obs = -1 -1 0.206 0.794 -1 -1 -1 -1  
Year 1990 Pred = -1 -1 0.896814 0.103186 -1 -1 -1 -1  
Year 1991 Obs = -1 -1 0.806 0.194 -1 -1 -1 -1  
Year 1991 Pred = -1 -1 0.658253 0.341747 -1 -1 -1 -1  
Year 1992 Obs = -1 -1 0.792 0.208 -1 -1 -1 -1  
Year 1992 Pred = -1 -1 0.773388 0.226612 -1 -1 -1 -1  
Year 1993 Obs = -1 -1 0.883 0.117 -1 -1 -1 -1  
Year 1993 Pred = -1 -1 0.757382 0.242618 -1 -1 -1 -1  
Year 1994 Obs = -1 -1 0.962 0.038 -1 -1 -1 -1  
Year 1994 Pred = -1 -1 0.948207 0.0517927 -1 -1 -1 -1  
Year 1995 Obs = -1 -1 0.961 0.039 -1 -1 -1 -1  
Year 1995 Pred = -1 -1 0.670084 0.329916 -1 -1 -1 -1  
Year 1996 Obs = -1 -1 0.857143 0.142857 -1 -1 -1 -1  
Year 1996 Pred = -1 -1 0.868921 0.131079 -1 -1 -1 -1  
Year 1997 Obs = -1 -1 0.876 0.124 -1 -1 -1 -1  
Year 1997 Pred = -1 -1 0.773523 0.226477 -1 -1 -1 -1  
Year 1998 Obs = -1 -1 0.648 0.352 -1 -1 -1 -1  
Year 1998 Pred = -1 -1 0.565615 0.434385 -1 -1 -1 -1

Year 1999 Obs	=	-1	-1	0.441	0.559	-1	-1	-1	-1
Year 1999 Pred	=	-1	-1	0.625235	0.374765	-1	-1	-1	-1
Year 2000 Obs	=	-1	-1	0.579	0.421	-1	-1	-1	-1
Year 2000 Pred	=	-1	-1	0.616838	0.383162	-1	-1	-1	-1
Year 2001 Obs	=	-1	-1	0.584	0.416	-1	-1	-1	-1
Year 2001 Pred	=	-1	-1	0.557967	0.442033	-1	-1	-1	-1
Year 2002 Obs	=	-1	-1	0.792	0.208	-1	-1	-1	-1
Year 2002 Pred	=	-1	-1	0.660354	0.339646	-1	-1	-1	-1
Year 2003 Obs	=	-1	-1	0.698	0.302	-1	-1	-1	-1
Year 2003 Pred	=	-1	-1	0.599715	0.400285	-1	-1	-1	-1
Year 2004 Obs	=	-1	-1	0.467	0.533	-1	-1	-1	-1
Year 2004 Pred	=	-1	-1	0.585332	0.414668	-1	-1	-1	-1
Year 2005 Obs	=	-1	-1	0.254	0.746	-1	-1	-1	-1
Year 2005 Pred	=	-1	-1	0.488225	0.511775	-1	-1	-1	-1
Year 2006 Obs	=	-1	-1	0.714	0.286	-1	-1	-1	-1
Year 2006 Pred	=	-1	-1	0.696448	0.303552	-1	-1	-1	-1
Index number 5									
Year 1982 Obs	=	-1	-1	0.988	0.012	-1	-1	-1	-1
Year 1982 Pred	=	-1	-1	0.872946	0.127054	-1	-1	-1	-1
Year 1983 Obs	=	-1	-1	0.802	0.198	-1	-1	-1	-1
Year 1983 Pred	=	-1	-1	0.771556	0.228444	-1	-1	-1	-1
Year 1984 Obs	=	-1	-1	0.678	0.322	-1	-1	-1	-1
Year 1984 Pred	=	-1	-1	0.999231	0.00076907	-1	-1	-1	-1
Year 1985 Obs	=	-1	-1	0.979	0.021	-1	-1	-1	-1
Year 1985 Pred	=	-1	-1	0.929269	0.0707308	-1	-1	-1	-1
Year 1986 Obs	=	-1	-1	0.76	0.24	-1	-1	-1	-1
Year 1986 Pred	=	-1	-1	0.732246	0.267754	-1	-1	-1	-1
Year 1987 Obs	=	-1	-1	0.984	0.016	-1	-1	-1	-1
Year 1987 Pred	=	-1	-1	0.937042	0.0629584	-1	-1	-1	-1
Year 1988 Obs	=	-1	-1	0.986	0.014	-1	-1	-1	-1
Year 1988 Pred	=	-1	-1	0.883895	0.116105	-1	-1	-1	-1
Year 1989 Obs	=	-1	-1	0.952	0.048	-1	-1	-1	-1
Year 1989 Pred	=	-1	-1	0.704632	0.295368	-1	-1	-1	-1
Year 1990 Obs	=	-1	-1	0	1	-1	-1	-1	-1
Year 1990 Pred	=	-1	-1	0.945891	0.0541092	-1	-1	-1	-1
Year 1991 Obs	=	-1	-1	0.98	0.02	-1	-1	-1	-1
Year 1991 Pred	=	-1	-1	0.794836	0.205164	-1	-1	-1	-1
Year 1992 Obs	=	-1	-1	1	0	-1	-1	-1	-1
Year 1992 Pred	=	-1	-1	0.872845	0.127155	-1	-1	-1	-1
Year 1993 Obs	=	-1	-1	0.941	0.059	-1	-1	-1	-1
Year 1993 Pred	=	-1	-1	0.862616	0.137384	-1	-1	-1	-1
Year 1994 Obs	=	-1	-1	1	0	-1	-1	-1	-1
Year 1994 Pred	=	-1	-1	0.973561	0.0264387	-1	-1	-1	-1
Year 1995 Obs	=	-1	-1	1	0	-1	-1	-1	-1
Year 1995 Pred	=	-1	-1	0.803351	0.196649	-1	-1	-1	-1
Year 1996 Obs	=	-1	-1	0.918	0.082	-1	-1	-1	-1
Year 1996 Pred	=	-1	-1	0.930232	0.0697677	-1	-1	-1	-1
Year 1997 Obs	=	-1	-1	0.811	0.189	-1	-1	-1	-1
Year 1997 Pred	=	-1	-1	0.872931	0.127069	-1	-1	-1	-1
Year 1998 Obs	=	-1	-1	0.692	0.308	-1	-1	-1	-1
Year 1998 Pred	=	-1	-1	0.72368	0.27632	-1	-1	-1	-1
Year 1999 Obs	=	-1	-1	0.713	0.287	-1	-1	-1	-1
Year 1999 Pred	=	-1	-1	0.770411	0.229589	-1	-1	-1	-1
Year 2000 Obs	=	-1	-1	0.823	0.177	-1	-1	-1	-1
Year 2000 Pred	=	-1	-1	0.76404	0.23596	-1	-1	-1	-1
Year 2001 Obs	=	-1	-1	0.779	0.221	-1	-1	-1	-1
Year 2001 Pred	=	-1	-1	0.717425	0.282575	-1	-1	-1	-1

Year 2002 Obs = -1 -1 0.88 0.12 -1 -1 -1 -1  
Year 2002 Pred = -1 -1 0.796357 0.203643 -1 -1 -1 -1  
Year 2003 Obs = -1 -1 0.83 0.17 -1 -1 -1 -1  
Year 2003 Pred = -1 -1 0.750838 0.249162 -1 -1 -1 -1  
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Year 2006 Obs = -1 -1 0.87 0.13 -1 -1 -1 -1  
Year 2006 Pred = -1 -1 0.821896 0.178104 -1 -1 -1 -1  
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Year 1984 Pred = -1 -1 0.997914 0.00134352 0.00074296 -1 -1 -1  
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Year 1985 Pred = -1 -1 0.882352 0.117479 0.000168801 -1 -1 -1  
Year 1986 Obs = -1 -1 0.526 0.432 0.042 -1 -1 -1  
Year 1986 Pred = -1 -1 0.577796 0.369576 0.0526281 -1 -1 -1  
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Year 1988 Pred = -1 -1 0.794409 0.182535 0.0230561 -1 -1 -1  
Year 1989 Obs = -1 -1 0.55045 0.26973 0.17982 -1 -1 -1  
Year 1989 Pred = -1 -1 0.52245 0.383087 0.0944635 -1 -1 -1  
Year 1990 Obs = -1 -1 0.537 0.317 0.146 -1 -1 -1  
Year 1990 Pred = -1 -1 0.848225 0.0848775 0.066898 -1 -1 -1  
Year 1991 Obs = -1 -1 0.768 0.118 0.114 -1 -1 -1  
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Year 1993 Obs = -1 -1 0.82018 0.0819181 0.0979021 -1 -1 -1  
Year 1993 Pred = -1 -1 0.737792 0.205544 0.0566642 -1 -1 -1  
Year 1994 Obs = -1 -1 0.88 0.07 0.05 -1 -1 -1  
Year 1994 Pred = -1 -1 0.941624 0.0447307 0.0136457 -1 -1 -1  
Year 1995 Obs = -1 -1 0.671 0.263 0.066 -1 -1 -1  
Year 1995 Pred = -1 -1 0.688719 0.294904 0.0163773 -1 -1 -1  
Year 1996 Obs = -1 -1 0.70971 0.229229 0.0610611 -1 -1 -1  
Year 1996 Pred = -1 -1 0.857641 0.112518 0.0298415 -1 -1 -1  
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Year 2005 Obs = -1 -1 0.59041 0.335664 0.0739261 -1 -1 -1  
Year 2005 Pred = -1 -1 0.409218 0.373058 0.217724 -1 -1 -1  
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Year 2006 Pred = -1 -1 0.587727 0.222784 0.189489 -1 -1 -1

Index number 7

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Year 1985 Obs = 0.201798 0.284715 0.442557 0.0629371 0.000999001 0.00699301  
0 0  
Year 1985 Pred = 0.0913242 0.382788 0.472766 0.0522269 5.61752e-05 2.28725e-  
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Year 1986 Obs = 0.1 0.681 0.173 0.042 0.003 0.001 0 0  
Year 1986 Pred = 0.0969383 0.673884 0.144299 0.0765815 0.00816342 8.66146e-  
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Year 1987 Obs = 0.0539461 0.761239 0.158841 0.023976 0.001998 0 0 0  
Year 1987 Pred = 0.0281728 0.661383 0.26922 0.0262533 0.0135203 0.00142761  
1.49741e-06 2.08842e-05  
Year 1988 Obs = 0.010989 0.622378 0.338661 0.025974 0.000999001 0.000999001  
0 0  
Year 1988 Pred = 0.0809935 0.3268 0.485878 0.0926314 0.00875856 0.0044653  
0.000466052 7.11038e-06  
Year 1989 Obs = 0 0.207 0.679 0.107 0.007 0 0 0  
Year 1989 Pred = 0.07066 0.709949 0.126303 0.0768416 0.014184 0.0013257  
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Year 1990 Obs = 0.037 0.775 0.126 0.048 0.008 0.006 0 0  
Year 1990 Pred = 0.089959 0.561175 0.305406 0.0253565 0.0149604 0.00274832  
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0.002997 0  
Year 1991 Pred = 0.0602492 0.622598 0.222334 0.0832933 0.00669308 0.00401785  
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Year 1993 Pred = 0.079484 0.842513 0.0600542 0.0138817 0.00286472 0.00106061  
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Year 1994 Pred = 0.0755587 0.533177 0.372247 0.014672 0.00335054 0.000702217  
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Year 1995 Pred = 0.0629305 0.533975 0.293274 0.104194 0.00433149 0.00100191  
0.000206995 8.6536e-05  
Year 1996 Obs = 0.031031 0.405405 0.542543 0.019019 0.002002 0 0 0  
Year 1996 Pred = 0.0323073 0.502137 0.411418 0.0447845 0.00889123  
0.000355704 8.19624e-05 2.41502e-05  
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0.002002 0  
Year 1997 Pred = 0.0302183 0.339881 0.512297 0.108234 0.00778519 0.00150705  
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Year 1998 Obs = 0 0.156156 0.613614 0.187187 0.031031 0.012012 0 0  
Year 1998 Pred = 0.0344624 0.329471 0.383485 0.212517 0.036887 0.00264043  
0.000510739 2.65675e-05  
Year 1999 Obs = 0.016 0.253 0.554 0.129 0.043 0.004 0.001 0  
Year 1999 Pred = 0.0247419 0.367503 0.363885 0.157389 0.072775 0.0126194  
0.000902875 0.00018438  
Year 2000 Obs = 0.0588822 0.206587 0.45509 0.178643 0.0648703 0.0229541  
0.00598802 0.00698603



Year 2000 Pred = 0.0305915 0.280373 0.401333 0.179891 0.069292 0.0324835  
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 Year 2001 Obs = 0.005 0.609 0.257 0.099 0.025 0.004 0.001 0  
 Year 2001 Pred = 0.0338883 0.352914 0.317697 0.181615 0.0709479 0.027612  
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 Year 2002 Obs = 0.0720721 0.504505 0.315315 0.0780781 0.02002 0.00500501  
 0.004004 0.001001  
 Year 2002 Pred = 0.0328172 0.338299 0.372974 0.138427 0.0717475 0.0284472  
 0.0110966 0.00619147  
 Year 2003 Obs = 0 0.430569 0.388611 0.11988 0.025974 0.026973 0.004995  
 0.002997  
 Year 2003 Pred = 0.0200861 0.326994 0.369865 0.17814 0.0567313 0.0294152  
 0.011656 0.00711254  
 Year 2004 Obs = 0.131 0.197 0.386 0.225 0.041 0.012 0.008 0  
 Year 2004 Pred = 0.0316905 0.226666 0.399897 0.204428 0.0862997 0.0275744  
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 Year 2005 Obs = 0.028 0.454 0.309 0.147 0.036 0.013 0.005 0.008  
 Year 2005 Pred = 0.0162823 0.351031 0.273915 0.207189 0.0905173 0.0383205  
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 Year 2006 Obs = 0.074 0.165 0.45 0.175 0.073 0.033 0.016 0.014  
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Index number 8

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Year 1990 Pred = 0.11547 0.462145 0.364968 0.0333712 0.0198694 0.00365284  
0.000337528 0.000186337  
Year 1991 Obs = 0 0.47 0.53 0 0 0 0 0  
Year 1991 Pred = 0.0788575 0.522824 0.270926 0.111779 0.00906429 0.00544534  
0.000964538 0.000139753  
Year 1992 Obs = 0.03 0.44 0.38 0.12 0.03 0 0 0  
Year 1992 Pred = 0.176128 0.413154 0.308902 0.0719293 0.0262741 0.00212934  
0.00123387 0.000249215  
Year 1993 Obs = 0.04 0.42 0.35 0.15 0 0 0.04 0  
Year 1993 Pred = 0.114467 0.778455 0.0805187 0.0204976 0.00426874 0.0015816  
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Year 1994 Obs = 0.237624 0.465347 0.237624 0 0.0594059 0 0 0  
Year 1994 Pred = 0.0964075 0.436469 0.442191 0.0191944 0.00442341  
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Year 1995 Obs = 0.376238 0.247525 0.247525 0.128713 0 0 0 0  
Year 1995 Pred = 0.0795363 0.432993 0.345089 0.135022 0.00566445 0.00131121  
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Year 1996 Obs = 0.019802 0.425743 0.415842 0.138614 0 0 0 0  
Year 1996 Pred = 0.0407354 0.406209 0.482955 0.0578972 0.0115998 0.000464407  
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Year 1997 Obs = 0.0505051 0.232323 0.525253 0.181818 0.010101 0 0 0  
Year 1997 Pred = 0.0357231 0.257787 0.563836 0.13119 0.00952279 0.00184479  
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Year 1998 Pred = 0.039969 0.24516 0.414074 0.252715 0.0442656 0.00317097  
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Year 1999 Obs = 0.03 0.29 0.41 0.19 0.06 0.02 0 0  
Year 1999 Pred = 0.0291022 0.277338 0.398482 0.189812 0.0885708 0.0153698  
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Year 2000 Obs = 0.03 0.24 0.47 0.19 0.05 0.02 0 0  
Year 2000 Pred = 0.0347573 0.20438 0.424523 0.209562 0.0814599 0.0382161  
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Year 2001 Obs = 0.01 0.43 0.29 0.15 0.06 0.04 0.02 0  
Year 2001 Pred = 0.0393969 0.263231 0.343857 0.216482 0.085343 0.0332391  
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0.010101  
Year 2002 Pred = 0.0381313 0.252196 0.403471 0.164915 0.0862589 0.0342262  
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Year 2003 Obs = 0.010101 0.393939 0.383838 0.121212 0.0606061 0.020202  
0.010101 0  
Year 2003 Pred = 0.0232083 0.242406 0.397871 0.211041 0.0678243 0.0351931  
0.0139463 0.00851017  
Year 2004 Obs = 0.049505 0.247525 0.405941 0.207921 0.0594059 0.019802  
0.00990099 0  
Year 2004 Pred = 0.0351667 0.161378 0.413145 0.232595 0.0990894 0.0316845  
0.0164204 0.0105211  
Year 2005 Obs = 0.02 0.22 0.39 0.21 0.07 0.06 0.01 0.02  
Year 2005 Pred = 0.0188051 0.260114 0.29453 0.245351 0.10817 0.0458281  
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Year 2006 Obs = 0 0.178218 0.356436 0.217822 0.168317 0.049505 0.019802  
0.00990099  
Year 2006 Pred = 0.0264878 0.142357 0.47968 0.166148 0.106755 0.0468328  
0.0198903 0.0118497  
Index number 10  
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Year 1988 Pred = 0.478662 0.221002 0.242844 0.0498092 0.00488706 0.00252723  
0.000265172 4.05354e-06  
Year 1989 Obs = 0.59 0.3 0.11 0 0 0 0 0  
Year 1989 Pred = 0.412954 0.474778 0.0624256 0.0408599 0.00782641  
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Year 1990 Obs = 0.45 0.5 0.04 0.01 0 0 0 0  
Year 1990 Pred = 0.488847 0.348949 0.140355 0.0125369 0.00767554 0.00143025  
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Year 1991 Obs = 0.25 0.68 0.07 0 0 0 0 0  
Year 1991 Pred = 0.379 0.448158 0.118281 0.0476728 0.00397512 0.00242046  
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Year 1992 Obs = 0.232323 0.636364 0.121212 0.010101 0 0 0 0  
Year 1992 Pred = 0.613706 0.256759 0.0977738 0.0222409 0.00835377  
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Year 1993 Obs = 0.30303 0.676768 0.020202 0 0 0 0 0  
Year 1993 Pred = 0.435244 0.527916 0.0278111 0.00691623 0.00148106  
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Year 1994 Obs = 0.584158 0.376238 0.029703 0 0.00990099 0 0 0  
Year 1994 Pred = 0.444993 0.359315 0.185405 0.00786194 0.00186303  
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Year 1995 Pred = 0.396167 0.384657 0.156139 0.0596804 0.00257449 0.000604034  
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Year 1996 Obs = 0.168317 0.524752 0.277228 0.019802 0.00990099 0 0 0  
Year 1996 Pred = 0.249441 0.443635 0.26864 0.0314606 0.00648136 0.00026301  
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Year 1998 Pred = 0.269831 0.295189 0.253931 0.151396 0.0272682 0.00197987  
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Year 1999 Obs = 0.09 0.53 0.3 0.06 0.01 0.01 0 0  
Year 1999 Pred = 0.206057 0.350228 0.256294 0.119261 0.0572233 0.0100648  
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Year 2000 Obs = 0.128713 0.524752 0.247525 0.0594059 0.019802 0.00990099  
0.00990099 0  
Year 2000 Pred = 0.248273 0.260376 0.275457 0.132834 0.0530944 0.0252469  
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Year 2001 Obs = 0.11 0.58 0.21 0.07 0.02 0.01 0 0

Year 2001 Pred = 0.263757 0.314311 0.209117 0.128611 0.0521352 0.0205811  
 0.0096752 0.00181256  
 Year 2002 Obs = 0.09 0.54 0.25 0.08 0.03 0.01 0 0  
 Year 2002 Pred = 0.25875 0.305221 0.248702 0.0993053 0.0534099 0.0214799  
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 Year 2003 Obs = 0.0594059 0.564356 0.257426 0.0594059 0.019802 0.019802  
 0.00990099 0.00990099  
 Year 2003 Pred = 0.174703 0.325446 0.272062 0.140973 0.0465868 0.0245014  
 0.00976037 0.00596749  
 Year 2004 Obs = 0.0808081 0.59596 0.232323 0.0505051 0.020202 0.010101  
 0.010101 0  
 Year 2004 Pred = 0.257448 0.210709 0.274745 0.151103 0.0661921 0.0214527  
 0.0111761 0.00717493  
 Year 2005 Obs = 0.277228 0.534653 0.108911 0.049505 0.019802 0.00990099 0 0  
 Year 2005 Pred = 0.144251 0.355865 0.20523 0.167011 0.0757133 0.0325126  
 0.0104681 0.00894871  
 Year 2006 Obs = 0.0792079 0.534653 0.29703 0.049505 0.019802 0.00990099  
 0.00990099 0  
 Year 2006 Pred = 0.208205 0.199573 0.342503 0.115892 0.0765691 0.0340464  
 0.0145357 0.00867656  
 Index number 11  
 N/A  
 Index number 12  
 N/A  
 Index number 13  
 N/A

Index Selectivity at Age

0.106403 0.244817 0.469495 0.708798 0.872376 0.953313 0.987 1  
 0.00292969 0.278651 0.980689 0.99985 0.999999 1 1 1  
 0.224921 0.970976 0.999741 0.999998 1 1 1 1  
 0 0 0.70531 1 0 0 0 0  
 0 0 0.999975 0.704889 0 0 0 0  
 0 0 0.606629 0.748008 1 0 0 0  
 0.042917 0.57808 0.97667 0.999219 0.999974 0.999999 1 1  
 0 0 1 0.598093 0 0 0 0  
 0.0414441 0.35816 0.87808 0.989357 0.999168 0.999936 0.999995 1  
 0.444903 0.685741 0.856259 0.942475 0.978728 0.992777 0.998047 1  
 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

2 286.252 3503.99 -3.2518  
 3 164.732 752.269 -1.97172  
 4 34.0134 117.878 -1.61357  
 5 6276.04 18.4496 7.56799  
 6 1.15039 2.87895 -1.1909  
 7 1.51314 0.445747 1.58669  
 8 0.0943591 0.0802721 0.209906

Fleet Obs, Initial, and Standardized Residual for Fmult

1 1.06156 0.5 0.977426  
 2 0.13451 0.2 -0.514978  
 3 3.05902e-07 0.05 -15.5843  
 4 3.05902e-07 0.05 -15.5843

5 0.489352 0.2 1.16161  
6 0.0794867 0.05 0.601818

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  
16 0  
17 0  
18 0  
19 0  
20 0  
21 0  
22 0  
23 0  
24 0  
25 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  
16 0  
17 0  
18 0  
19 0  
20 0  
21 0  
22 0  
23 0  
24 0  
25 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  
16 0  
17 0  
18 0  
19 0  
20 0  
21 0  
22 0  
23 0  
24 0  
25 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

15 0  
16 0  
17 0  
18 0  
19 0  
20 0  
21 0  
22 0  
23 0  
24 0  
25 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

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

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  
25 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

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



```
16 0
17 0
18 0
19 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
  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
25 0
  index 13 q_devs standardized residuals
2 0
3 0
4 0
5 0
6 0
7 0
```







0.0682426 0.94653 1 0.714298 0.46494 0.282495 0.163687 0.092067  
0.0602832 0.723521 1 0.485206 0.153646 0.0406654 0.0101971 0.00252128  
0.0602832 0.723521 1 0.485206 0.153646 0.0406654 0.0101971 0.00252128  
0.0602832 0.723521 1 0.485206 0.153646 0.0406654 0.0101971 0.00252128  
0.0602832 0.723521 1 0.485206 0.153646 0.0406654 0.0101971 0.00252128  
0.0602832 0.723521 1 0.485206 0.153646 0.0406654 0.0101971 0.00252128  
0.0602832 0.723521 1 0.485206 0.153646 0.0406654 0.0101971 0.00252128  
0.0602832 0.723521 1 0.485206 0.153646 0.0406654 0.0101971 0.00252128  
0.0602832 0.723521 1 0.485206 0.153646 0.0406654 0.0101971 0.00252128  
0.0602832 0.723521 1 0.485206 0.153646 0.0406654 0.0101971 0.00252128  
0.0602832 0.723521 1 0.485206 0.153646 0.0406654 0.0101971 0.00252128  
0.0602832 0.723521 1 0.485206 0.153646 0.0406654 0.0101971 0.00252128  
0.0602832 0.723521 1 0.485206 0.153646 0.0406654 0.0101971 0.00252128  
0.0602832 0.723521 1 0.485206 0.153646 0.0406654 0.0101971 0.00252128  
0.0602832 0.723521 1 0.485206 0.153646 0.0406654 0.0101971 0.00252128

Fmult by year for each fleet

1982 1.06156 0.13451 3.05902e-07 3.05902e-07 0.489352 0.0794867  
1983 1.10401 0.101086 1.10676e-13 5.66497e-10 0.535406 0.0376709  
1984 0.850568 0.231708 8.29175e-19 4.14465e-12 0.478375 0.0260715  
1985 1.20851 0.159363 1.944e-15 4.38751e-16 0.324862 0.00895283  
1986 0.965997 0.103539 3.89177e-21 4.45649e-17 0.440393 0.0472397  
1987 0.868906 0.12732 4.14138e-15 1.3638e-23 0.411986 0.0395224  
1988 1.34936 0.181179 1.30984e-08 4.07259e-17 0.503985 0.0508169  
1989 1.07967 0.180533 0.0428189 2.34814e-23 0.187171 0.007232  
1990 0.590446 0.0927925 0.314935 1.62888e-21 0.250585 0.0343323  
1991 0.828357 0.165015 0.239951 2.16907e-19 0.517872 0.0663759  
1992 2.05219 0.0877475 0.288414 1.8756e-13 0.347507 0.0808183  
1993 0.610366 0.0778725 0.099393 2.43004e-08 0.327211 0.0994068  
1994 0.493778 0.0689036 0.0559511 0.0794384 0.251681 0.0582644  
1995 1.19533 0.472093 0.0118411 0.05353 0.319066 0.0590028  
1996 0.752209 0.339661 0.0250176 0.0198173 0.445091 0.0418482  
1997 0.394007 0.0779335 0.0251413 0.00922708 0.402248 0.0327447  
1998 0.350637 0.123973 0.0252166 0.018182 0.367645 0.0440114  
1999 0.296355 0.104613 0.137265 0.0523532 0.233745 0.0477804  
2000 0.256722 0.108328 0.0666405 0.0160038 0.401518 0.0587105  
2001 0.255209 0.0861519 0.020134 0.0321163 0.271399 0.0735773  
2002 0.301993 0.116668 0.0275245 0.0153002 0.17261 0.0415398  
2003 0.2524 0.0835154 0.0362729 0.00776204 0.209335 0.0410535  
2004 0.309646 0.112429 0.019451 0.00695738 0.194407 0.0530746  
2005 0.366439 0.112053 0.0144671 0.0113019 0.227147 0.0604569  
2006 0.271644 0.107649 0.0359352 0.00752173 0.237537 0.0513892

Directed F by age and year for each fleet

fleet 1 directed F at age

0.00502907 0.773553 1.06086 1.06156 1.06156 1.06156 1.06156 1.06156  
0.00523018 0.804487 1.10329 1.10401 1.10401 1.10401 1.10401 1.10401  
0.0040295 0.619803 0.850007 0.850567 0.850568 0.850568 0.850568 0.850568  
0.00572523 0.880634 1.20772 1.20851 1.20851 1.20851 1.20851 1.20851  
0.00457633 0.703915 0.96536 0.965996 0.965997 0.965997 0.965997 0.965997  
0.00411637 0.633166 0.868333 0.868905 0.868906 0.868906 0.868906 0.868906  
0.00639247 0.983266 1.34847 1.34935 1.34936 1.34936 1.34936 1.34936  
0.00511484 0.786746 1.07896 1.07967 1.07967 1.07967 1.07967 1.07967  
0.00279719 0.430253 0.590056 0.590445 0.590446 0.590446 0.590446 0.590446  
0.00392427 0.603618 0.827811 0.828356 0.828357 0.828357 0.828357 0.828357  
0.0097221 1.49542 2.05084 2.05219 2.05219 2.05219 2.05219 2.05219  
0.00289156 0.44477 0.609964 0.610366 0.610366 0.610366 0.610366 0.610366  
0.00233923 0.359813 0.493453 0.493778 0.493778 0.493778 0.493778 0.493778  
0.00471427 0.0836974 0.703772 1.15298 1.19302 1.1952 1.19532 1.19533

0.00296665 0.0526701 0.442878 0.725559 0.750759 0.752133 0.752205 0.752209  
 0.00155393 0.0275886 0.231979 0.380047 0.393247 0.393967 0.394005 0.394007  
 0.00138289 0.0245518 0.206445 0.338215 0.349961 0.350602 0.350636 0.350637  
 0.0011688 0.020751 0.174485 0.285855 0.295784 0.296325 0.296353 0.296355  
 0.00101249 0.0179758 0.15115 0.247627 0.256227 0.256696 0.256721 0.256722  
 0.00100652 0.0178699 0.15026 0.246167 0.254717 0.255183 0.255208 0.255209  
 0.00119104 0.0211458 0.177805 0.291294 0.301411 0.301963 0.301992 0.301993  
 0.000995445 0.0176732 0.148605 0.243457 0.251913 0.252374 0.252399 0.2524  
 0.00122122 0.0216816 0.18231 0.298675 0.309049 0.309614 0.309644 0.309646  
 0.00144521 0.0256583 0.215749 0.353457 0.365733 0.366402 0.366438 0.366439  
 0.00107134 0.0190207 0.159936 0.26202 0.27112 0.271617 0.271643 0.271644  
 fleet 2 directed F at age  
 0.13451 0.13451 0.13451 0.13451 0.13451 0.13451 0.13451 0.13451  
 0.101086 0.101086 0.101086 0.101086 0.101086 0.101086 0.101086 0.101086  
 0.231708 0.231708 0.231708 0.231708 0.231708 0.231708 0.231708 0.231708  
 0.159363 0.159363 0.159363 0.159363 0.159363 0.159363 0.159363 0.159363  
 0.103539 0.103539 0.103539 0.103539 0.103539 0.103539 0.103539 0.103539  
 0.12732 0.12732 0.12732 0.12732 0.12732 0.12732 0.12732 0.12732  
 0.181179 0.181179 0.181179 0.181179 0.181179 0.181179 0.181179 0.181179  
 0.180533 0.180533 0.180533 0.180533 0.180533 0.180533 0.180533 0.180533  
 0.0927925 0.0927925 0.0927925 0.0927925 0.0927925 0.0927925 0.0927925 0.0927925  
 0.0927925  
 0.165015 0.165015 0.165015 0.165015 0.165015 0.165015 0.165015 0.165015  
 0.0877475 0.0877475 0.0877475 0.0877475 0.0877475 0.0877475 0.0877475 0.0877475  
 0.0877475  
 0.0778725 0.0778725 0.0778725 0.0778725 0.0778725 0.0778725 0.0778725 0.0778725  
 0.0778725  
 0.0689036 0.0689036 0.0689036 0.0689036 0.0689036 0.0689036 0.0689036 0.0689036  
 0.0689036  
 0.00383534 0.0458592 0.276473 0.447964 0.470166 0.471946 0.472082 0.472093  
 0.00275944 0.0329948 0.198917 0.322301 0.338274 0.339555 0.339653 0.339661  
 0.000633141 0.00757049 0.0456404 0.0739503 0.0776154 0.0779093 0.0779318  
 0.0779335  
 0.00100717 0.0120428 0.0726025 0.117637 0.123467 0.123934 0.12397 0.123973  
 0.000849888 0.0101621 0.0612648 0.0992662 0.104186 0.10458 0.104611 0.104613  
 0.000880068 0.010523 0.0634403 0.102791 0.107886 0.108294 0.108325 0.108328  
 0.000699909 0.00836883 0.0504534 0.0817487 0.0858003 0.0861252 0.08615  
 0.0861519  
 0.000947829 0.0113332 0.0683249 0.110706 0.116192 0.116632 0.116666 0.116668  
 0.000678489 0.00811272 0.0489094 0.079247 0.0831745 0.0834895 0.0835136  
 0.0835154  
 0.000913388 0.0109214 0.0658422 0.106683 0.11197 0.112394 0.112427 0.112429  
 0.000910329 0.0108848 0.0656217 0.106326 0.111595 0.112018 0.11205 0.112053  
 0.000874555 0.0104571 0.063043 0.102147 0.10721 0.107616 0.107647 0.107649  
 fleet 3 directed F at age  
 7.16653e-11 3.05902e-07 1.27858e-08 2.07233e-08 1.68232e-10 3.05902e-08  
 1.52951e-08 3.05902e-09  
 2.59287e-17 1.10676e-13 4.62591e-15 7.49773e-15 6.08668e-17 1.10676e-14  
 5.5338e-15 1.10676e-15  
 1.94255e-22 8.29175e-19 3.46569e-20 5.61723e-20 4.56009e-22 8.29175e-20  
 4.14588e-20 8.29175e-21  
 4.55431e-19 1.944e-15 8.12531e-17 1.31696e-16 1.06911e-18 1.944e-16  
 9.71999e-17 1.944e-17  
 9.11746e-25 3.89177e-21 1.62664e-22 2.63647e-22 2.1403e-24 3.89177e-22  
 1.94589e-22 3.89177e-23  
 9.70222e-19 4.14138e-15 1.73097e-16 2.80557e-16 2.27757e-18 4.14138e-16  
 2.07069e-16 4.14138e-17

3.06863e-12 1.30984e-08 5.47473e-10 8.87349e-10 7.20353e-12 1.30984e-09  
 6.54921e-10 1.30984e-10  
 1.00314e-05 0.0428189 0.0017897 0.00290076 2.35485e-05 0.00428189 0.00214095  
 0.000428189  
 7.37816e-05 0.314935 0.0131633 0.0213352 0.0001732 0.0314935 0.0157468  
 0.00314935  
 5.62146e-05 0.239951 0.0100292 0.0162555 0.000131962 0.0239951 0.0119976  
 0.00239951  
 6.75682e-05 0.288414 0.0120548 0.0195385 0.000158614 0.0288414 0.0144207  
 0.00288414  
 2.32853e-05 0.099393 0.00415432 0.00673336 5.46616e-05 0.0099393 0.00496965  
 0.00099393  
 1.31079e-05 0.0559511 0.00233858 0.00379039 3.07705e-05 0.00559511  
 0.00279755 0.000559511  
 2.77407e-06 0.0118411 0.000494919 0.00080217 6.51204e-06 0.00118411  
 0.000592053 0.000118411  
 5.861e-06 0.0250176 0.00104566 0.00169481 1.37585e-05 0.00250176 0.00125088  
 0.000250176  
 5.88998e-06 0.0251413 0.00105083 0.00170319 1.38266e-05 0.00251413  
 0.00125706 0.000251413  
 5.90762e-06 0.0252166 0.00105397 0.00170829 1.3868e-05 0.00252166 0.00126083  
 0.000252166  
 3.21578e-05 0.137265 0.00573724 0.00929898 7.54894e-05 0.0137265 0.00686324  
 0.00137265  
 1.56122e-05 0.0666405 0.00278536 0.00451455 3.66492e-05 0.00666405  
 0.00333203 0.000666405  
 4.7169e-06 0.020134 0.000841539 0.00136398 1.10728e-05 0.0020134 0.0010067  
 0.00020134  
 6.4483e-06 0.0275245 0.00115044 0.00186464 1.51372e-05 0.00275245 0.00137622  
 0.000275245  
 8.49783e-06 0.0362729 0.00151609 0.0024573 1.99484e-05 0.00362729 0.00181364  
 0.000362729  
 4.55688e-06 0.019451 0.00081299 0.0013177 1.06972e-05 0.0019451 0.000972549  
 0.00019451  
 3.38929e-06 0.0144671 0.000604681 0.000980073 7.95627e-06 0.00144671  
 0.000723357 0.000144671  
 8.41872e-06 0.0359352 0.00150198 0.00243442 1.97627e-05 0.00359352  
 0.00179676 0.000359352  
 fleet 4 directed F at age  
 3.58631e-11 2.41655e-09 3.05902e-07 2.7123e-08 1.63405e-10 3.05902e-08  
 1.52951e-08 3.05902e-09  
 6.64144e-14 4.47517e-12 5.66497e-10 5.02288e-11 3.02609e-13 5.66497e-11  
 2.83248e-11 5.66497e-12  
 4.85907e-16 3.27416e-14 4.14465e-12 3.67488e-13 2.21397e-15 4.14465e-13  
 2.07233e-13 4.14465e-14  
 5.14379e-20 3.46602e-18 4.38751e-16 3.89021e-17 2.3437e-19 4.38751e-17  
 2.19376e-17 4.38751e-18  
 5.22466e-21 3.52051e-19 4.45649e-17 3.95137e-18 2.38054e-20 4.45649e-18  
 2.22824e-18 4.45649e-19  
 1.59888e-27 1.07737e-25 1.3638e-23 1.20922e-24 7.28509e-27 1.3638e-24  
 6.81901e-25 1.3638e-25  
 4.77459e-21 3.21724e-19 4.07259e-17 3.61099e-18 2.17548e-20 4.07259e-18  
 2.0363e-18 4.07259e-19  
 2.75289e-27 1.85497e-25 2.34814e-23 2.08199e-24 1.25432e-26 2.34814e-24  
 1.17407e-24 2.34814e-25  
 1.90965e-25 1.28677e-23 1.62888e-21 1.44426e-22 8.70108e-25 1.62888e-22  
 8.1444e-23 1.62888e-23

2.54296e-23 1.71351e-21 2.16907e-19 1.92322e-20 1.15867e-22 2.16907e-20  
 1.08454e-20 2.16907e-21  
 2.1989e-17 1.48168e-15 1.8756e-13 1.66301e-14 1.0019e-16 1.8756e-14  
 9.37802e-15 1.8756e-15  
 2.84891e-12 1.91967e-10 2.43004e-08 2.15461e-09 1.29807e-11 2.43004e-09  
 1.21502e-09 2.43004e-10  
 9.31313e-06 0.000627542 0.0794384 0.00704345 4.2434e-05 0.00794384  
 0.00397192 0.000794384  
 6.2757e-06 0.000422873 0.05353 0.00474627 2.85944e-05 0.005353 0.0026765  
 0.0005353  
 2.32333e-06 0.000156552 0.0198173 0.00175711 1.05859e-05 0.00198173  
 0.000990866 0.000198173  
 1.08176e-06 7.28915e-05 0.00922708 0.000818124 4.92888e-06 0.000922708  
 0.000461354 9.22708e-05  
 2.13161e-06 0.000143633 0.018182 0.00161212 9.71238e-06 0.0018182 0.0009091  
 0.00018182  
 6.13773e-06 0.000413576 0.0523532 0.00464192 2.79658e-05 0.00523532  
 0.00261766 0.000523532  
 1.87624e-06 0.000126426 0.0160038 0.00141899 8.54885e-06 0.00160038  
 0.000800191 0.000160038  
 3.76522e-06 0.00025371 0.0321163 0.00284761 1.71557e-05 0.00321163  
 0.00160581 0.000321163  
 1.79375e-06 0.000120868 0.0153002 0.0013566 8.173e-06 0.00153002 0.000765011  
 0.000153002  
 9.09999e-07 6.1318e-05 0.00776204 0.000688225 4.14629e-06 0.000776204  
 0.000388102 7.76204e-05  
 8.15663e-07 5.49615e-05 0.00695738 0.00061688 3.71646e-06 0.000695738  
 0.000347869 6.95738e-05  
 1.32501e-06 8.92823e-05 0.0113019 0.00100209 6.03722e-06 0.00113019  
 0.000565097 0.000113019  
 8.81826e-07 5.94197e-05 0.00752173 0.000666918 4.01792e-06 0.000752173  
 0.000376086 7.52173e-05  
 fleet 5 directed F at age  
 0.331986 0.355263 0.378585 0.401756 0.424589 0.446903 0.468538 0.489352  
 0.36323 0.388698 0.414214 0.439567 0.464548 0.488963 0.512634 0.535406  
 0.324539 0.347294 0.370092 0.392744 0.415065 0.436879 0.458028 0.478375  
 0.220393 0.235846 0.251328 0.266711 0.281868 0.296682 0.311045 0.324862  
 0.298771 0.319719 0.340707 0.361561 0.382109 0.402191 0.421661 0.440393  
 0.279499 0.299096 0.318731 0.338239 0.357462 0.376249 0.394463 0.411986  
 0.341913 0.365886 0.389905 0.41377 0.437285 0.460267 0.482549 0.503985  
 0.12698 0.135884 0.144804 0.153667 0.1624 0.170935 0.17921 0.187171  
 0.170002 0.181922 0.193864 0.20573 0.217422 0.228849 0.239927 0.250585  
 0.351334 0.375968 0.400649 0.425171 0.449334 0.47295 0.495845 0.517872  
 0.235756 0.252286 0.268847 0.285302 0.301517 0.317363 0.332727 0.347507  
 0.221987 0.237551 0.253145 0.268639 0.283907 0.298828 0.313294 0.327211  
 0.170745 0.182717 0.194711 0.206629 0.218372 0.229849 0.240976 0.251681  
 0.00323518 0.0924137 0.300548 0.318573 0.319054 0.319066 0.319066 0.319066  
 0.00451301 0.128915 0.419258 0.444403 0.445074 0.44509 0.445091 0.445091  
 0.0040786 0.116506 0.378901 0.401626 0.402232 0.402247 0.402248 0.402248  
 0.00372775 0.106484 0.346307 0.367077 0.367631 0.367645 0.367645 0.367645  
 0.00237007 0.0677014 0.220179 0.233384 0.233736 0.233745 0.233745 0.233745  
 0.00407121 0.116295 0.378214 0.400898 0.401503 0.401518 0.401518 0.401518  
 0.00275186 0.0786074 0.255647 0.270979 0.271388 0.271399 0.271399 0.271399  
 0.00175019 0.0499944 0.162592 0.172343 0.172603 0.17261 0.17261 0.17261  
 0.00212256 0.0606314 0.197185 0.209012 0.209327 0.209335 0.209335 0.209335  
 0.0019712 0.0563076 0.183124 0.194107 0.194399 0.194407 0.194407 0.194407  
 0.00230316 0.0657904 0.213963 0.226796 0.227138 0.227147 0.227147 0.227147



0.00240851 0.0687997 0.22375 0.23717 0.237528 0.237537 0.237537 0.237537  
 fleet 6 directed F at age  
 0.00542438 0.0752366 0.0794867 0.0567772 0.0369566 0.0224546 0.0130109  
 0.00731811  
 0.00257076 0.0356566 0.0376709 0.0269082 0.0175147 0.0106418 0.00616624  
 0.00346825  
 0.00177919 0.0246775 0.0260715 0.0186228 0.0121217 0.00736507 0.00426757  
 0.00240033  
 0.000610965 0.00847413 0.00895283 0.00639499 0.00416253 0.00252913  
 0.00146546 0.000824261  
 0.00322376 0.0447138 0.0472397 0.0337432 0.0219636 0.013345 0.00773253  
 0.00434922  
 0.00269711 0.0374091 0.0395224 0.0282308 0.0183755 0.0111649 0.0064693  
 0.00363871  
 0.00346788 0.0480998 0.0508169 0.0362984 0.0236268 0.0143555 0.00831807  
 0.00467856  
 0.000493531 0.00684531 0.007232 0.00516581 0.00336245 0.002043 0.00118378  
 0.000665829  
 0.00234293 0.0324966 0.0343323 0.0245235 0.0159625 0.00969872 0.00561976  
 0.00316088  
 0.00452966 0.0628268 0.0663759 0.0474122 0.0308608 0.0187509 0.0108649  
 0.00611103  
 0.00551525 0.0764969 0.0808183 0.0577283 0.0375757 0.0228308 0.0132289  
 0.0074407  
 0.00678378 0.0940915 0.0994068 0.0710061 0.0462182 0.0280819 0.0162716  
 0.00915209  
 0.00397611 0.055149 0.0582644 0.0416181 0.0270894 0.0164594 0.00953712  
 0.00536423  
 0.00355688 0.0426897 0.0590028 0.0286285 0.00906551 0.00239937 0.000601658  
 0.000148763  
 0.00252274 0.030278 0.0418482 0.020305 0.00642979 0.00170177 0.000426731  
 0.000105511  
 0.00197396 0.0236915 0.0327447 0.0158879 0.00503108 0.00133158 0.000333902  
 8.25586e-05  
 0.00265315 0.0318432 0.0440114 0.0213546 0.00676215 0.00178974 0.00044879  
 0.000110965  
 0.00288036 0.0345701 0.0477804 0.0231833 0.00734125 0.00194301 0.000487223  
 0.000120468  
 0.00353926 0.0424783 0.0587105 0.0284867 0.0090206 0.00238749 0.000598678  
 0.000148026  
 0.00443548 0.0532347 0.0735773 0.0357001 0.0113048 0.00299205 0.000750277  
 0.000185509  
 0.00250416 0.030055 0.0415398 0.0201554 0.00638241 0.00168924 0.000423587  
 0.000104734  
 0.00247483 0.029703 0.0410535 0.0199194 0.00630768 0.00166946 0.000418627  
 0.000103507  
 0.00319951 0.0384006 0.0530746 0.0257521 0.00815468 0.0021583 0.000541208  
 0.000133816  
 0.00364454 0.0437418 0.0604569 0.029334 0.00928893 0.00245851 0.000616486  
 0.000152429  
 0.00309791 0.0371812 0.0513892 0.0249343 0.00789572 0.00208976 0.000524022  
 0.000129567  
 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







0.00952051 0.254039 0.670305 0.785736 0.774681 0.77716 0.771296 0.767543  
0.00890225 0.178469 0.562895 0.638807 0.623239 0.620924 0.61612 0.613468  
0.00640145 0.140174 0.466712 0.59772 0.596613 0.597177 0.593833 0.591805  
0.00628074 0.152454 0.445032 0.554781 0.550746 0.551272 0.547868 0.545794  
0.00731068 0.146817 0.492121 0.627151 0.623587 0.621214 0.618339 0.61688  
0.00830795 0.160632 0.567697 0.717894 0.713769 0.710602 0.70754 0.706049  
0.00746162 0.171453 0.507142 0.629373 0.623778 0.623205 0.619523 0.617394

Average F for ages 3 to 5

Freport unweighted in .std and MCMC files

year	unweighted	Nweighted	Bweighted
1982	1.65522	1.6575	1.65758
1983	1.67166	1.6623	1.66505
1984	1.49366	1.47791	1.47794
1985	1.64075	1.62869	1.62948
1986	1.4651	1.46007	1.46141
1987	1.36289	1.35542	1.35686
1988	1.98081	1.97226	1.97341
1989	1.42041	1.41714	1.41826
1990	0.925277	0.924658	0.924668
1991	1.47526	1.4732	1.4747
1992	2.494	2.49943	2.4984
1993	1.03253	1.04182	1.03989
1994	0.842362	0.893591	0.890187
1995	1.77962	1.54293	1.58347
1996	1.39345	1.16858	1.1937
1997	0.81724	0.731217	0.738249
1998	0.794683	0.750405	0.765123
1999	0.619526	0.595893	0.605792
2000	0.743574	0.712734	0.726137
2001	0.608314	0.594174	0.600351
2002	0.553681	0.5131	0.526045
2003	0.516853	0.486686	0.498406
2004	0.580953	0.547767	0.562355
2005	0.666454	0.644411	0.659251
2006	0.586764	0.54732	0.562267

Population Numbers at the Start of the Year

79921.3 286.252 164.732 34.0134 6276.04 1.15039 1.51314 0.0943591  
123682 40613.2 61.4552 25.813 5.3236 979.338 0.178115 0.245655  
44589 63155.3 8794.85 9.60277 3.97214 0.806531 145.791 0.0611728  
66874.1 20810 15212.5 1642.61 1.76546 0.71881 0.143484 25.483  
72109.2 37215.3 4716.73 2446.74 260.62 0.276513 0.111109 3.85796  
22478.1 39176.3 9438.83 899.666 462.974 48.8842 0.0512741 0.715114  
40624.6 12169.2 10709 1995.56 188.544 96.1211 10.0323 0.15306  
26168.4 19519.6 2055.41 1222.27 225.446 21.0707 10.5957 1.10438  
33824.5 15664.9 5045.99 409.491 241.419 44.3491 4.09768 2.26216  
27610.9 21182.6 4477.3 1639.49 131.642 79.023 13.9966 2.02798  
49273 13374.5 4078.79 842.941 304.884 24.6898 14.3059 2.88947  
36531.7 28748 1212.87 274.032 56.5084 20.9207 1.64446 1.15575  
41893.3 21946.8 9069.25 349.395 79.7287 16.7094 6.14507 0.823459  
42575 26819.8 8718.64 3027.63 125.768 29.0905 6.0101 2.51258  
29748.6 34326.4 16646.7 1771.17 351.372 14.0567 3.23898 0.954367  
28798.2 24047 21453.4 4430.23 318.422 61.6384 2.45994 0.736653  
32946.7 23384.3 16110 8726.29 1513.49 108.336 20.9553 1.09005  
24247.8 26738.7 15670.5 6624.92 3060.99 530.77 37.9748 7.75499  
28964.3 19707.9 16697.3 7315.41 2815.69 1319.94 225.602 19.6765

30381.5 23489.3 12515.6 6993.25 2729.85 1062.4 496.797 92.8886  
32213.9 24653.8 16088 5836.23 3022.66 1198.43 467.481 260.835  
21683.1 26206.3 17544.8 8259.5 2628.37 1362.78 540.01 329.517  
33222.8 17641.4 18422 9204.81 3882.9 1240.63 642.913 411.936  
16870.6 27002.4 12471.4 9220.44 4025.2 1704.03 545.749 465.626  
22026.7 13698.2 18827 5787.71 3682.27 1614.15 685.5 408.386

q by index

index 1 q over time

1992 0.000899486  
1993 0.000899486  
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2004 0.000899486  
2005 0.000899486  
2006 0.000899486

index 2 q over time

1982 6.95525e-05  
1983 6.95525e-05  
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1986 6.95525e-05  
1987 6.95525e-05  
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2005 6.95525e-05  
2006 6.95525e-05

index 3 q over time

1982 4.32841e-05  
1983 4.32841e-05  
1984 4.32841e-05  
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2002 4.32841e-05  
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2005 4.32841e-05  
2006 4.32841e-05

index 4 q over time

1982 0.000134194  
1983 0.000134194  
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2005 0.000134194  
2006 0.000134194

index 5 q over time

1982 9.28585e-05  
1983 9.28585e-05  
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2006 9.28585e-05

index 6 q over time

1984 4.38692e-05  
1985 4.38692e-05  
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2006 4.38692e-05

index 7 q over time

1984 4.66135e-05  
1985 4.66135e-05  
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2002 4.66135e-05  
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2006 4.66135e-05

index 8 q over time

1982 6.77292e-05  
1983 6.77292e-05  
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index 9 q over time

1990 2.69239e-05  
1991 2.69239e-05  
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2002 2.69239e-05  
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2006 2.69239e-05

index 10 q over time

1988 0.000155852  
1989 0.000155852  
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2005 0.000155852  
2006 0.000155852

index 11 q over time

1986 5.30611e-06  
1987 5.30611e-06  
1988 5.30611e-06  
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2002 5.30611e-06  
2003 5.30611e-06  
2004 5.30611e-06  
2005 5.30611e-06  
2006 5.30611e-06

index 12 q over time

1982 0.000224697  
1983 0.000224697  
1984 0.000224697  
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2004 0.000224697  
 2005 0.000224697  
 2006 0.000224697  
 index 13 q over time  
 1982 2.65319e-05  
 1983 2.65319e-05  
 1984 2.65319e-05  
 1985 2.65319e-05  
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 2004 2.65319e-05  
 2005 2.65319e-05  
 2006 2.65319e-05

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 = 0.0827446 0.0320251 0.0225304 0.00465316 0.857672 0.000156777  
 0.000205328 1.27364e-05  
 Year 2 Obs = 0.10236 0.634204 0.227746 0.0289916 0.00156994 0.00324454  
 0.000680308 0.00120362  
 Year 2 Pred = 0.0265622 0.943565 0.00173806 0.000726579 0.000149028  
 0.0272473 4.92241e-06 6.7417e-06  
 Year 3 Obs = 0.0664268 0.506889 0.31883 0.0766062 0.0272241 0.00340893  
 0.000142039 0.000473462  
 Year 3 Pred = 0.00509288 0.845532 0.14676 0.000159426 6.55665e-05 1.32308e-  
 05 0.00237605 9.9035e-07  
 Year 4 Obs = 0.0447546 0.343172 0.536416 0.0509351 0.0140125 0.00900421  
 0.00133198 0.000372955  
 Year 4 Pred = 0.0150919 0.497365 0.43949 0.0472574 5.05597e-05 2.04899e-05  
 4.07094e-06 0.000719667  
 Year 5 Obs = 0.0249296 0.431275 0.39042 0.135673 0.00967781 0.00569644  
 0.00177631 0.000551268  
 Year 5 Pred = 0.0137248 0.791856 0.123567 0.0639529 0.00679021 7.17411e-06  
 2.86816e-06 9.9034e-05  
 Year 6 Obs = 0.0183903 0.493436 0.413006 0.0517919 0.0186673 0.00127403  
 0.00132942 0.00210491  
 Year 6 Pred = 0.0036891 0.741361 0.221885 0.0210933 0.0108168 0.00113718  
 1.18678e-06 1.64618e-05

Year 7 Obs = 0.0137816 0.502282 0.406308 0.0578374 0.0147757 0.00356965  
0.000813339 0.000632597  
Year 7 Pred = 0.0142398 0.432587 0.455982 0.084738 0.00797749 0.00404863  
0.000420311 6.37521e-06  
Year 8 Obs = 0.0113879 0.295492 0.572835 0.0997628 0.0180308 0.00189798  
0.000355872 0.000237248  
Year 8 Pred = 0.0100543 0.808319 0.105708 0.0627009 0.0115477 0.00107471  
0.000539383 5.61008e-05  
Year 9 Obs = 0 0.651696 0.210154 0.112033 0.0197706 0.00439346 0.00146449  
0.000488162  
Year 9 Pred = 0.012688 0.645397 0.300237 0.0242755 0.0144175 0.00260945  
0.000241961 0.000133817  
Year 10 Obs = 0 0.519579 0.450533 0.0196485 0.00844057 0.00152207  
0.00013837 0.00013837  
Year 10 Pred = 0.0086662 0.704666 0.20258 0.0738946 0.00595189 0.00352696  
0.000624011 9.01616e-05  
Year 11 Obs = 0.0115983 0.586021 0.36372 0.034388 0.00193306 0.00223827 0  
0.00010174  
Year 11 Pred = 0.031705 0.648632 0.24738 0.0511248 0.0186207 0.00149457  
0.000868227 0.000175496  
Year 12 Obs = 0.0213669 0.609594 0.331116 0.0246215 0.00410358 0.00608462  
0.00268855 0.000424508  
Year 12 Pred = 0.0100724 0.923292 0.0515034 0.0116904 0.00242637 0.000895901  
7.04873e-05 4.94834e-05  
Year 13 Obs = 0.0151246 0.470005 0.469243 0.0345704 0.00813421 0.00152517  
0.000762583 0.000635486  
Year 13 Pred = 0.00976979 0.637116 0.33579 0.0133544 0.0030646 0.000638454  
0.00023505 3.14828e-05  
Year 14 Obs = 0.00640312 0.357183 0.595768 0.0335468 0.00556793 0.00111359  
0.000278396 0.000139198  
Year 14 Pred = 0.0275874 0.272758 0.468688 0.218893 0.00929184 0.00215045  
0.000445033 0.000186239  
Year 15 Obs = 0 0.251933 0.573098 0.143499 0.0280525 0.00269736 0.000539471  
0.000179824  
Year 15 Pred = 0.0125096 0.226992 0.643153 0.0966573 0.0196654 0.000787474  
0.000181689 5.35757e-05  
Year 16 Obs = 0 0.086758 0.557534 0.277169 0.059589 0.0157534 0.00228311  
0.000913242  
Year 16 Pred = 0.00809008 0.109471 0.657279 0.206685 0.0153454 0.002975  
0.000118871 3.56212e-05  
Year 17 Obs = 0 0.0439265 0.385253 0.45316 0.0979381 0.0161363 0.00336172  
0.000224115  
Year 17 Pred = 0.00838592 0.0964902 0.449404 0.373008 0.0669349 0.00479904  
0.000929692 4.84021e-05  
Year 18 Obs = 0 0.0307962 0.39309 0.381072 0.14647 0.0400601 0.00650976  
0.002003  
Year 18 Pred = 0.00584186 0.100998 0.436765 0.290452 0.139729 0.0241233  
0.0017342 0.000355364  
Year 19 Obs = 0 0.0548229 0.500129 0.280062 0.116111 0.0307732 0.0121541  
0.00594776  
Year 19 Pred = 0.00684379 0.0736553 0.435951 0.297971 0.119224 0.0559337  
0.00958461 0.000837271  
Year 20 Obs = 0 0.192057 0.381393 0.272035 0.0900435 0.0421654 0.0160501  
0.0062568  
Year 20 Pred = 0.00762441 0.096548 0.363464 0.321935 0.130911 0.0510917  
0.0239435 0.004482

Year 21 Obs = 0 0.0797956 0.53184 0.270244 0.0752752 0.0261399 0.0147406  
0.00196541  
Year 21 Pred = 0.00727537 0.0927398 0.438147 0.245827 0.131803 0.05234  
0.0204484 0.0114195  
Year 22 Obs = 0 0.0960949 0.431814 0.276631 0.108771 0.0521366 0.0224903  
0.012063  
Year 22 Pred = 0.0042353 0.0847619 0.417243 0.306555 0.10112 0.0525133  
0.0208418 0.0127294  
Year 23 Obs = 0 0.048398 0.439966 0.297639 0.126138 0.0507589 0.0202361  
0.0168634  
Year 23 Pred = 0.00615164 0.0542612 0.406901 0.313987 0.137262 0.043982  
0.0228227 0.0146326  
Year 24 Obs = 0 0.084207 0.228491 0.271093 0.181561 0.112332 0.0605758  
0.0617407  
Year 24 Pred = 0.00353109 0.0933184 0.301347 0.342142 0.154821 0.0657504  
0.0210874 0.018003  
Year 25 Obs = 0 0.0787154 0.466205 0.232997 0.121327 0.0579345 0.0277078  
0.0151134  
Year 25 Pred = 0.0046227 0.0472079 0.468248 0.223569 0.147536 0.0648077  
0.0275692 0.0164396  
fleet 2  
Year 1 Obs = 0.172408 0.608612 0.179438 0.0249561 0.00913884 0.00333919  
0.00105448 0.00105448  
Year 1 Pred = 0.949488 0.00238912 0.00122559 0.000252953 0.0466243 8.52265e-  
06 1.1162e-05 6.9237e-07  
Year 2 Obs = 0.0778358 0.59769 0.250119 0.0454042 0.0213574 0.00648632  
0.000474608 0.000632811  
Year 2 Pred = 0.808884 0.186806 0.000250908 0.000104821 2.14997e-05  
0.00393085 7.10135e-07 9.72597e-07  
Year 3 Obs = 0.0814915 0.508356 0.349416 0.049416 0.00961366 0.00161725  
8.98473e-05 0  
Year 3 Pred = 0.450776 0.486548 0.0615793 6.68496e-05 2.7493e-05 5.54787e-06  
0.000996313 4.15268e-07  
Year 4 Obs = 0.0274049 0.415828 0.493428 0.0472595 0.0118848 0.0033557  
0.000699105 0.000139821  
Year 4 Pred = 0.731322 0.156689 0.100958 0.0108487 1.16068e-05 4.70377e-06  
9.34546e-07 0.00016521  
Year 5 Obs = 0.0420725 0.482665 0.369497 0.0932996 0.00564862 0.00623296  
0.00019478 0.00038956  
Year 5 Pred = 0.693372 0.260078 0.0295931 0.015306 0.00162512 1.717e-06  
6.86442e-07 2.3702e-05  
Year 6 Obs = 0.054914 0.570351 0.306151 0.0624558 0.00589206 0.000235682 0  
0  
Year 6 Pred = 0.379639 0.495996 0.108245 0.0102834 0.0052734 0.0005544  
5.78582e-07 8.02547e-06  
Year 7 Obs = 0 0.495499 0.377951 0.0800068 0.0385595 0.00662477 0.000169866  
0.00118906  
Year 7 Pred = 0.72378 0.142947 0.10987 0.0204044 0.00192093 0.000974885  
0.000101208 1.53511e-06  
Year 8 Obs = 0.000823384 0.0201729 0.591601 0.294772 0.076163 0.0152326  
0.000411692 0.000823384  
Year 8 Pred = 0.621781 0.324987 0.0309899 0.0183697 0.00338317 0.00031486  
0.000158025 1.6436e-05  
Year 9 Obs = 0.00140449 0.100421 0.51264 0.293539 0.0821629 0.00842697  
0.000702247 0.000702247  
Year 9 Pred = 0.685666 0.226748 0.0769153 0.00621485 0.00369108 0.000668054  
6.19452e-05 3.42587e-05

Year 10 Obs = 0 0.142431 0.611857 0.194258 0.0432513 0.00745712 0.000745712  
0  
Year 10 Pred = 0.593327 0.31365 0.0657492 0.0239674 0.00193046 0.00114395  
0.000202395 2.92435e-05  
Year 11 Obs = 0 0.0214031 0.472652 0.414388 0.0778835 0.0124851 0.00118906  
0  
Year 11 Pred = 0.846888 0.11264 0.0313249 0.00646951 0.00235632 0.000189128  
0.000109868 2.22078e-05  
Year 12 Obs = 0 0.269211 0.575536 0.13173 0.0230005 0.000522739 0 0  
Year 12 Pred = 0.614515 0.366215 0.0148958 0.00337888 0.000701292  
0.000258941 2.03729e-05 1.43022e-05  
Year 13 Obs = 0.00277649 0.119389 0.583989 0.232763 0.0532161 0.00647848  
0.00138825 0  
Year 13 Pred = 0.626841 0.265759 0.102134 0.00405918 0.000931512 0.000194063  
7.14454e-05 9.56945e-06  
Year 14 Obs = 0 0.0642528 0.493788 0.304934 0.117501 0.0188143 0.000709975  
0  
Year 14 Pred = 0.050343 0.335222 0.412995 0.190763 0.00821379 0.00190467  
0.000394244 0.000164987  
Year 15 Obs = 0 0.164492 0.620533 0.157119 0.0374362 0.015882 0.0036869  
0.000850822  
Year 15 Pred = 0.0235086 0.28729 0.58362 0.0867466 0.017902 0.000718259  
0.000165752 4.88769e-05  
Year 16 Obs = 0 0.0163305 0.600384 0.363112 0.0172911 0.00288184 0 0  
Year 16 Pred = 0.0159613 0.145459 0.626176 0.194741 0.0146659 0.00284881  
0.000113851 3.41173e-05  
Year 17 Obs = 0.0118421 0.359868 0.456579 0.151316 0.0184211 0.00197368 0 0  
Year 17 Pred = 0.0166474 0.129004 0.430788 0.353628 0.0643666 0.00462391  
0.000895938 4.66456e-05  
Year 18 Obs = 0.000712758 0.0498931 0.35923 0.412687 0.108339 0.0627227  
0.00427655 0.00213828  
Year 18 Pred = 0.0115937 0.134993 0.418552 0.275282 0.134329 0.0232363  
0.00167076 0.000342369  
Year 19 Obs = 0 0.028169 0.224225 0.510423 0.194366 0.0309859 0.0101408  
0.00169014  
Year 19 Pred = 0.013709 0.0993663 0.421675 0.285047 0.115687 0.0543806  
0.00932026 0.000814193  
Year 20 Obs = 0 0.0539986 0.278879 0.380041 0.228298 0.0430622 0.0123035  
0.00341763  
Year 20 Pred = 0.0151305 0.129037 0.348289 0.305104 0.125844 0.0492105  
0.0230663 0.00431787  
Year 21 Obs = 0 0.0351423 0.255338 0.459075 0.204626 0.0311388 0.0133452  
0.00133452  
Year 21 Pred = 0.0144518 0.124068 0.420261 0.233202 0.126825 0.0504618  
0.0197184 0.011012  
Year 22 Obs = 0 0.0262997 0.205505 0.435474 0.221407 0.075841 0.030581  
0.00489297  
Year 22 Pred = 0.0084712 0.114179 0.402978 0.292821 0.097974 0.0509789  
0.0202367 0.0123601  
Year 23 Obs = 0 0.0106054 0.26867 0.381352 0.198409 0.10517 0.0251878  
0.0106054  
Year 23 Pred = 0.0124239 0.0738042 0.396814 0.302839 0.134285 0.0431123  
0.0223757 0.0143462  
Year 24 Obs = 0 0.00888657 0.24621 0.434919 0.203346 0.0747517 0.0230005  
0.00888657  
Year 24 Pred = 0.00704566 0.125402 0.290343 0.326026 0.149643 0.0636755  
0.0204258 0.0174385

Year 25 Obs = 0 0.00924499 0.223934 0.337956 0.229584 0.132512 0.048793  
0.0179764  
Year 25 Pred = 0.00936574 0.0644149 0.458093 0.216317 0.144796 0.0637285  
0.0271153 0.0161692  
fleet 3  
Year 1 Obs = 0 0 0 0 0 0 0 0  
Year 1 Pred = 0.0821733 0.882577 0.0189237 0.00633039 0.00947228 0.00031484  
0.00020617 2.55772e-06  
Year 2 Obs = 0 0 0 0 0 0 0 0  
Year 2 Pred = 0.00101118 0.996797 5.59596e-05 3.78912e-05 6.3092e-08  
0.0020975 1.89464e-07 5.18977e-08  
Year 3 Obs = 0 0 0 0 0 0 0 0  
Year 3 Pred = 0.000215838 0.994412 0.00526041 9.25583e-06 3.09022e-08  
1.13388e-06 0.000101814 8.4873e-09  
Year 4 Obs = 0 0 0 0 0 0 0 0  
Year 4 Pred = 0.00105879 0.968309 0.0260773 0.00454181 3.9447e-08 2.90685e-  
06 2.88767e-07 1.02097e-05  
Year 5 Obs = 0 0 0 0 0 0 0 0  
Year 5 Pred = 0.000618783 0.990715 0.00471173 0.00394988 3.40453e-06  
6.54056e-07 1.30743e-07 9.02882e-07  
Year 6 Obs = 0 0 0 0 0 0 0 0  
Year 6 Pred = 0.000177396 0.989293 0.00902397 0.00138951 5.78448e-06  
0.000110578 5.77008e-08 1.60073e-07  
Year 7 Obs = 0 0 0 0 0 0 0 0  
Year 7 Pred = 0.00113653 0.958124 0.0307801 0.00926503 7.08085e-06  
0.000653432 3.39182e-05 1.02893e-07  
Year 8 Obs = 0.310372 0.651982 0.0376452 0 0 0 0 0  
Year 8 Pred = 0.000444497 0.991679 0.00395247 0.00379737 5.67748e-06  
9.60777e-05 2.41101e-05 5.01536e-07  
Year 9 Obs = 0.338025 0.646259 0.0157166 0 0 0 0 0  
Year 9 Pred = 0.000696543 0.983224 0.0139401 0.00182564 8.80215e-06  
0.000289681 1.34303e-05 1.48553e-06  
Year 10 Obs = 0.206489 0.793511 0 0 0 0 0 0  
Year 10 Pred = 0.000436718 0.985433 0.00863407 0.00510126 3.33557e-06  
0.000359408 3.17944e-05 9.18776e-07  
Year 11 Obs = 0.421841 0.563915 0.0131483 0.00109569 0 0 0 0  
Year 11 Pred = 0.0017311 0.982795 0.0114236 0.00382399 1.13066e-05  
0.000165016 4.79306e-05 1.93765e-06  
Year 12 Obs = 0.378133 0.556484 0.06502 0.00036324 0 0 0 0  
Year 12 Pred = 0.000392023 0.997215 0.00169535 0.000623305 1.05022e-06  
7.05106e-05 2.7738e-06 3.89452e-07  
Year 13 Obs = 0.205618 0.603889 0.17753 0.0129636 0 0 0 0  
Year 13 Pred = 0.000542949 0.98257 0.0157829 0.00101669 1.89405e-06  
7.17495e-05 1.32075e-05 3.53803e-07  
Year 14 Obs = 0.181467 0.525097 0.265122 0.028314 0 0 0 0  
Year 14 Pred = 0.000415298 0.987195 0.00843205 0.00389604 1.29753e-06  
5.45035e-05 5.63917e-06 4.71977e-07  
Year 15 Obs = 0.0239334 0.663892 0.248699 0.0634755 0 0 0 0  
Year 15 Pred = 0.000225515 0.983828 0.0138563 0.00206021 3.28854e-06  
2.39009e-05 2.75699e-06 1.62593e-07  
Year 16 Obs = 0.0126984 0.395238 0.477778 0.114286 0 0 0 0  
Year 16 Pred = 0.000295662 0.961874 0.0287073 0.00893091 5.20222e-06  
0.000183053 3.65674e-06 2.19156e-07  
Year 17 Obs = 0.047619 0.306878 0.386243 0.259259 0 0 0 0  
Year 17 Pred = 0.000346605 0.958834 0.0221984 0.0182283 2.56628e-05  
0.000333952 3.23443e-05 3.36784e-07  
Year 18 Obs = 0.0319893 0.407531 0.416861 0.143619 0 0 0 0

Year 18 Pred = 0.000231848 0.9637 0.0207157 0.0136292 5.14406e-05 0.00161188  
5.79328e-05 2.37425e-06  
Year 19 Obs = 0.0220441 0.164329 0.460922 0.352705 0 0 0 0  
Year 19 Pred = 0.000366133 0.947377 0.0278728 0.0188478 5.91659e-05  
0.00503804 0.000431609 7.54068e-06  
Year 20 Obs = 0.0226337 0.203704 0.218107 0.555556 0 0 0 0  
Year 20 Pred = 0.000315801 0.961448 0.0179915 0.0157659 5.02976e-05  
0.00356289 0.000834772 3.12521e-05  
Year 21 Obs = 0.0247148 0.235741 0.418251 0.321293 0 0 0 0  
Year 21 Pred = 0.000313232 0.959959 0.022544 0.0125137 5.26383e-05  
0.00379394 0.000741043 8.27672e-05  
Year 22 Obs = 0.00319489 0.421725 0.408946 0.0894569 0.0399361 0.0159744  
0.0159744 0.00479233  
Year 22 Pred = 0.000198346 0.954369 0.0233522 0.0169743 4.39281e-05  
0.00414052 0.000821578 0.000100358  
Year 23 Obs = 0.00369004 0.143911 0.494465 0.195572 0.0811808 0.0332103  
0.0258303 0.0221402  
Year 23 Pred = 0.000439204 0.931412 0.0347188 0.0265052 9.0906e-05  
0.00528684 0.00137157 0.000175873  
Year 24 Obs = 0.0162602 0.166667 0.390244 0.211382 0.0894309 0.0528455  
0.0406504 0.0325203  
Year 24 Pred = 0.000151309 0.961387 0.015432 0.0173342 6.15393e-05  
0.00474351 0.000760591 0.000129868  
Year 25 Obs = 0.0114286 0.14 0.517143 0.148571 0.0828571 0.0457143  
0.0314286 0.0228571  
Year 25 Pred = 0.000375376 0.921639 0.0454408 0.0214647 0.000111131  
0.00886018 0.00188438 0.000224731  
fleet 4  
Year 1 Obs = 0 0 0 0 0 0 0 0  
Year 1 Pred = 0.0792542 0.0134375 0.872599 0.0159684 0.0177323 0.000606796  
0.000397355 4.92953e-06  
Year 2 Obs = 0 0 0 0 0 0 0 0  
Year 2 Pred = 0.042642 0.663574 0.112824 0.00417915 5.16418e-06 0.176755  
1.5966e-05 4.37339e-06  
Year 3 Obs = 0 0 0 0 0 0 0 0  
Year 3 Pred = 0.000806441 0.0586522 0.939682 9.04482e-05 2.24105e-07  
8.46589e-06 0.000760173 6.33687e-08  
Year 4 Obs = 0 0 0 0 0 0 0 0  
Year 4 Pred = 0.000830425 0.0119888 0.977843 0.00931663 6.00512e-08  
4.55589e-06 4.52582e-07 1.60016e-05  
Year 5 Obs = 0 0 0 0 0 0 0 0  
Year 5 Pred = 0.00245679 0.0620944 0.894393 0.0410161 2.62365e-05 5.18927e-  
06 1.03732e-06 7.16346e-06  
Year 6 Obs = 0 0 0 0 0 0 0 0  
Year 6 Pred = 0.000393256 0.0346202 0.956415 0.00805624 2.48893e-05  
0.000489849 2.55608e-07 7.09103e-07  
Year 7 Obs = 0 0 0 0 0 0 0 0  
Year 7 Pred = 0.00075094 0.00999356 0.972328 0.0160108 9.0809e-06  
0.000862754 4.47836e-05 1.35854e-07  
Year 8 Obs = 0 0 0 0 0 0 0 0  
Year 8 Pred = 0.00206502 0.072728 0.877895 0.0461402 5.11953e-05 0.00089195  
0.00022383 4.65607e-06  
Year 9 Obs = 0 0 0 0 0 0 0 0  
Year 9 Pred = 0.00101228 0.022557 0.968582 0.0069392 2.48291e-05 0.00084127  
3.90033e-05 4.31415e-06  
Year 10 Obs = 0 0 0 0 0 0 0 0



Year 10 Pred = 0.000986002 0.0351218 0.931986 0.0301227 1.46172e-05  
0.00162153 0.000143446 4.14522e-06  
Year 11 Obs = 0 0 0 0 0 0 0  
Year 11 Pred = 0.00301659 0.0270353 0.951733 0.0174282 3.82423e-05  
0.000574619 0.000166905 6.74733e-06  
Year 12 Obs = 0 0 0 0 0 0 0  
Year 12 Pred = 0.0039611 0.159062 0.818997 0.016472 2.05969e-05 0.0014237  
5.60068e-05 7.86357e-06  
Year 13 Obs = 0 0.604376 0.362808 0.0328168 0 0 0 0  
Year 13 Pred = 0.000701969 0.0200538 0.975581 0.00343786 4.753e-06  
0.00018537 3.41224e-05 9.14075e-07  
Year 14 Obs = 0 0.404255 0.524823 0.070922 0 0 0 0  
Year 14 Pred = 0.000967051 0.0362883 0.938729 0.0237276 5.86442e-06  
0.000253615 2.62401e-05 2.1962e-06  
Year 15 Obs = 0 0.741611 0.241611 0.0167785 0 0 0 0  
Year 15 Pred = 0.000329858 0.0227167 0.968984 0.00788141 9.33627e-06  
6.98599e-05 8.05841e-06 4.75244e-07  
Year 16 Obs = 0 0.220779 0.636364 0.142857 0 0 0 0  
Year 16 Pred = 0.000209435 0.0107559 0.972217 0.0165459 7.15254e-06  
0.000259114 5.17617e-06 3.10219e-07  
Year 17 Obs = 0.00595238 0.25 0.434524 0.309524 0 0 0 0  
Year 17 Pred = 0.000308028 0.0134515 0.943177 0.0423683 4.42666e-05  
0.000593062 5.74398e-05 5.9809e-07  
Year 18 Obs = 0.00208333 0.133333 0.497917 0.366667 0 0 0 0  
Year 18 Pred = 0.000221875 0.0145587 0.947813 0.0341127 9.55499e-05  
0.00308248 0.000110788 4.5404e-06  
Year 19 Obs = 0.0111732 0.256983 0.458101 0.273743 0 0 0 0  
Year 19 Pred = 0.000259988 0.0106197 0.946263 0.0350038 8.15464e-05  
0.00714887 0.000612444 1.07001e-05  
Year 20 Obs = 0 0.0634146 0.243902 0.692683 0 0 0 0  
Year 20 Pred = 0.000341093 0.016393 0.929064 0.0445368 0.000105445  
0.00768996 0.00180173 6.7453e-05  
Year 21 Obs = 0.00564972 0.169492 0.468927 0.355932 0 0 0 0  
Year 21 Pred = 0.00027589 0.0133474 0.949332 0.0288267 8.99892e-05  
0.00667762 0.00130429 0.000145677  
Year 22 Obs = 0 0.387387 0.432432 0.117117 0.036036 0.00900901 0.00900901  
0.00900901  
Year 22 Pred = 0.000167193 0.0126995 0.941112 0.037422 7.18715e-05  
0.00697447 0.0013839 0.000169047  
Year 23 Obs = 0 0.133333 0.609524 0.180952 0.047619 0.0190476 0.00952381 0  
Year 23 Pred = 0.000249804 0.00836271 0.944092 0.0394279 0.000100356  
0.00600882 0.00155887 0.00019989  
Year 24 Obs = 0 0.08 0.52 0.24 0.08 0.04 0.02 0.02  
Year 24 Pred = 0.000186837 0.0187401 0.911042 0.0559815 0.000147493  
0.0117047 0.00187677 0.000320451  
Year 25 Obs = 0 0.0887097 0.637097 0.169355 0.0564516 0.0241935 0.016129  
0.00806452  
Year 25 Pred = 0.000165676 0.00642139 0.958865 0.0247777 9.52022e-05  
0.00781445 0.00166197 0.000198207  
fleet 5  
Year 1 Obs = 0.177729 0.545789 0.226071 0.0362567 0.0138952 0 0.000258515 0  
Year 1 Pred = 0.936927 0.00252281 0.00137913 0.000302064 0.0588408 1.1321e-  
05 1.55447e-05 1.00706e-06  
Year 2 Obs = 0.10964 0.553058 0.237093 0.0638217 0.0251476 0.0104782 0  
0.00076205  
Year 2 Pred = 0.797305 0.197042 0.000282031 0.000125034 2.71031e-05  
0.00521578 9.87882e-07 1.4131e-06

Year 3 Obs = 0.130587 0.526352 0.276452 0.0579113 0.00841202 0.000286123 0  
0  
Year 3 Pred = 0.432113 0.499105 0.0673153 7.75493e-05 3.3706e-05 7.15907e-06  
0.0013479 5.86768e-07  
Year 4 Obs = 0.0905476 0.452015 0.395988 0.0427435 0.0133743 0.00533165 0 0  
Year 4 Pred = 0.711735 0.163184 0.112046 0.012777 1.44467e-05 6.1624e-06  
1.28362e-06 0.000237  
Year 5 Obs = 0.100594 0.551416 0.239566 0.0936236 0.0111006 0.00129077  
0.00240943 0  
Year 5 Pred = 0.675754 0.271241 0.0328895 0.0180521 0.00202561 2.25261e-06  
9.44174e-07 3.40494e-05  
Year 6 Obs = 0.059377 0.595041 0.263954 0.0569612 0.0231405 0.000127146  
0.000635728 0.000762873  
Year 6 Pred = 0.360258 0.503676 0.117137 0.0118093 0.00640004 0.000708207  
7.74878e-07 1.12257e-05  
Year 7 Obs = 0.0430723 0.576506 0.33243 0.0388554 0.00883534 0.000301205 0  
0  
Year 7 Pred = 0.702257 0.148421 0.121566 0.0239583 0.00238369 0.00127332  
0.00013859 2.19549e-06  
Year 8 Obs = 0.042516 0.313337 0.552126 0.0786255 0.00931858 0.00116482  
0.00291206 0  
Year 8 Pred = 0.602429 0.33695 0.0342399 0.0215384 0.0041922 0.000410659  
0.000216082 2.3473e-05  
Year 9 Obs = 0.0930416 0.7301 0.139431 0.0311017 0.0060622 0 0.000263574 0  
Year 9 Pred = 0.666146 0.235739 0.0852143 0.00730686 0.00458626 0.0008737  
8.49357e-05 4.90603e-05  
Year 10 Obs = 0.0141727 0.59443 0.371622 0.0130191 0.00659196 0.000164799 0  
0  
Year 10 Pred = 0.571998 0.323576 0.0722827 0.0279617 0.00238019 0.00148457  
0.000275376 4.15557e-05  
Year 11 Obs = 0.0165934 0.639544 0.320472 0.0179928 0 0.00539784 0 0  
Year 11 Pred = 0.834839 0.118823 0.0352136 0.00771776 0.00297071 0.000250972  
0.000152853 3.2269e-05  
Year 12 Obs = 0.0121651 0.60502 0.357715 0.0244841 0.000307977 0.000307977  
0 0  
Year 12 Pred = 0.597325 0.380929 0.0165115 0.0039746 0.000871818 0.000338824  
2.79484e-05 2.04919e-05  
Year 13 Obs = 0.117858 0.596449 0.253319 0.0274504 0.00417723 0.000149187  
0.000596748 0  
Year 13 Pred = 0.606122 0.274993 0.11262 0.0047499 0.00115197 0.000252604  
9.74994e-05 1.36393e-05  
Year 14 Obs = 0.0694528 0.453999 0.428743 0.0348767 0.0078172 0.00481058  
0.000300661 0  
Year 14 Pred = 0.03242 0.515727 0.342755 0.103571 0.00425535 0.000983073  
0.000203426 8.513e-05  
Year 15 Obs = 0.0165785 0.419465 0.495641 0.0505931 0.017579 0.000142918 0  
0  
Year 15 Pred = 0.0151643 0.442721 0.485167 0.0471757 0.00928998 0.000371338  
8.56685e-05 2.52614e-05  
Year 16 Obs = 0.000558114 0.160179 0.584345 0.204409 0.0382308 0.0122785 0  
0  
Year 16 Pred = 0.0118335 0.257632 0.598283 0.121723 0.00874723 0.00169278  
6.76316e-05 2.02665e-05  
Year 17 Obs = 0 0.110044 0.417682 0.388881 0.0737928 0.00902708 0.000573148  
0  
Year 17 Pred = 0.0134863 0.249669 0.449755 0.241526 0.0419494 0.00300227  
0.000581558 3.02773e-05

Year 18 Obs = 0 0.0489408 0.482591 0.3701 0.0791332 0.0146092 0.00462625 0  
Year 18 Pred = 0.00939609 0.261367 0.437161 0.188094 0.0875821 0.0150934  
0.00108494 0.00022232  
Year 19 Obs = 0 0.0740931 0.528266 0.292783 0.0824253 0.0217921 0.000640943  
0  
Year 19 Pred = 0.0116216 0.201239 0.460684 0.203726 0.0788973 0.0369484  
0.00633075 0.000553025  
Year 20 Obs = 0 0.158292 0.373064 0.336419 0.101813 0.0228561 0.00680015  
0.000755572  
Year 20 Pred = 0.0126922 0.258592 0.376522 0.215777 0.0849255 0.0330854  
0.0155036 0.00290211  
Year 21 Obs = 0.00030656 0.0594727 0.406806 0.369099 0.129062 0.0282036  
0.00613121 0.000919681  
Year 21 Pred = 0.0118832 0.243715 0.445342 0.161663 0.0838943 0.0332556  
0.0129912 0.00725493  
Year 22 Obs = 0 0.0519851 0.367186 0.384075 0.142136 0.0375082 0.0135995  
0.00350954  
Year 22 Pred = 0.00709929 0.228597 0.435228 0.206892 0.0660539 0.0342416  
0.0135887 0.00829945  
Year 23 Obs = 0.00526662 0.0467413 0.341014 0.377441 0.14944 0.0482774  
0.0263331 0.00548607  
Year 23 Pred = 0.0110194 0.156385 0.453578 0.226455 0.095818 0.0306475  
0.0159018 0.0101952  
Year 24 Obs = 0.000729927 0.0447689 0.291241 0.374453 0.183698 0.0579075  
0.0240876 0.0231144  
Year 24 Pred = 0.00608732 0.258835 0.323281 0.23748 0.104011 0.044093  
0.0141401 0.0120718  
Year 25 Obs = 0.000987167 0.017769 0.34847 0.325518 0.179911 0.078233  
0.0333169 0.0157947  
Year 25 Pred = 0.00822831 0.135198 0.518666 0.160225 0.10234 0.044874  
0.0190876 0.0113819  
fleet 6  
Year 1 Obs = 0.212871 0.787129 0 0 0 0 0  
Year 1 Pred = 0.718792 0.0250859 0.0135958 0.00200437 0.240474 2.67082e-05  
2.02681e-05 7.07132e-07  
Year 2 Obs = 0.158085 0.841915 0 0 0 0 0  
Year 2 Pred = 0.23644 0.757364 0.00107472 0.000320705 4.28162e-05 0.00475638  
4.97891e-07 3.83545e-07  
Year 3 Obs = 0.170732 0.829268 0 0 0 0 0  
Year 3 Pred = 0.0556179 0.83264 0.111335 8.63328e-05 2.31109e-05 2.83357e-06  
0.000294854 6.91242e-08  
Year 4 Obs = 0.162602 0.837398 0 0 0 0 0  
Year 4 Pred = 0.162592 0.483179 0.328911 0.025246 1.7581e-05 4.32906e-06  
4.98369e-07 4.95539e-05  
Year 5 Obs = 0.109729 0.890271 0 0 0 0 0  
Year 5 Pred = 0.141342 0.735337 0.0883976 0.0326581 0.00225699 1.44887e-06  
3.35635e-07 6.51837e-06  
Year 6 Obs = 0.0805471 0.919453 0 0 0 0 0  
Year 6 Pred = 0.0422235 0.765138 0.176415 0.0119714 0.00399591 0.000255248  
1.5435e-07 1.20421e-06  
Year 7 Obs = 0.0763889 0.923611 0 0 0 0 0  
Year 7 Pred = 0.159164 0.436004 0.354047 0.0469661 0.002878 0.000887454  
5.3384e-05 4.55434e-07  
Year 8 Obs = 0.135417 0.864583 0 0 0 0 0  
Year 8 Pred = 0.107194 0.777102 0.0782884 0.0331481 0.00397373 0.000224701  
6.53456e-05 3.82277e-06  
Year 9 Obs = 0.113208 0.886792 0 0 0 0 0

Year 9 Pred = 0.135751 0.622661 0.223144 0.012879 0.00497879 0.000547514  
 2.94168e-05 9.15059e-06  
 Year 10 Obs = 0.023976 0.976024 0 0 0 0 0  
 Year 10 Pred = 0.0960632 0.704348 0.15599 0.0406169 0.00212944 0.0007667  
 7.85997e-05 6.38763e-06  
 Year 11 Obs = 0.024602 0.975398 0 0 0 0 0  
 Year 11 Pred = 0.286781 0.529049 0.155438 0.0229308 0.00543626 0.000265115  
 8.92392e-05 1.01456e-05  
 Year 12 Obs = 0.0191657 0.980834 0 0 0 0 0  
 Year 12 Pred = 0.103219 0.853183 0.0366636 0.0059405 0.000802542 0.000180046  
 8.20802e-06 3.24099e-06  
 Year 13 Obs = 0.175182 0.824818 0 0 0 0 0  
 Year 13 Pred = 0.106981 0.629093 0.255423 0.0072512 0.00108312 0.000137103  
 2.92469e-05 2.20335e-06  
 Year 14 Obs = 0.139278 0.860722 0 0 0 0 0  
 Year 14 Pred = 0.101664 0.679501 0.191922 0.0265466 0.000344863 2.10856e-05  
 1.0941e-06 1.13208e-07  
 Year 15 Obs = 0.0384911 0.961509 0 0 0 0 0  
 Year 15 Pred = 0.0519485 0.637233 0.296777 0.0132096 0.000822477 8.70097e-06  
 5.03351e-07 3.66988e-08  
 Year 16 Obs = 0.0172786 0.590353 0.37581 0.0165587 0 0 0 0  
 Year 16 Pred = 0.0499096 0.45655 0.450575 0.0419628 0.000953455 4.88338e-05  
 4.89238e-07 3.62488e-08  
 Year 17 Obs = 0 0.403892 0.51592 0.0801887 0 0 0 0  
 Year 17 Pred = 0.0614286 0.477815 0.365799 0.089921 0.00493812 9.35352e-05  
 4.54329e-06 5.8484e-08  
 Year 18 Obs = 0.0471116 0.32922 0.553561 0.0701066 0 0 0 0  
 Year 18 Pred = 0.0436996 0.510737 0.363045 0.0715029 0.010527 0.000480135  
 8.65438e-06 4.38482e-07  
 Year 19 Obs = 0 0.314914 0.588519 0.0965665 0 0 0 0  
 Year 19 Pred = 0.0588762 0.428355 0.416741 0.0843607 0.0103299 0.00128032  
 5.50084e-05 1.18813e-06  
 Year 20 Obs = 0 0.524324 0.369231 0.0993763 0.00706861 0 0 0  
 Year 20 Pred = 0.060827 0.520703 0.322209 0.0845244 0.0105185 0.00108453  
 0.000127435 5.89813e-06  
 Year 21 Obs = 0.0533049 0.401564 0.404407 0.140725 0 0 0 0  
 Year 21 Pred = 0.056738 0.488925 0.379686 0.0630918 0.0103522 0.00108606  
 0.000106387 1.46899e-05  
 Year 22 Obs = 0.0298598 0.478367 0.365021 0.118221 0.00853138 0 0 0  
 Year 22 Pred = 0.0355424 0.480862 0.389079 0.0846631 0.00854652 0.00117255  
 0.000116683 1.76207e-05  
 Year 23 Obs = 0.0499706 0.298648 0.466784 0.180482 0.00411523 0 0 0  
 Year 23 Pred = 0.0615794 0.367191 0.452606 0.103438 0.0138383 0.00117144  
 0.000152413 2.41612e-05  
 Year 24 Obs = 0.109767 0.498271 0.31936 0.0691443 0.00345722 0 0 0  
 Year 24 Pred = 0.0312177 0.557719 0.296036 0.0995453 0.0137852 0.00154665  
 0.000124373 2.62536e-05  
 Year 25 Obs = 0.0883694 0.314709 0.505701 0.0826682 0.00741163 0.00114025 0  
 0  
 Year 25 Pred = 0.0473619 0.326967 0.533082 0.075382 0.0152237 0.00176669  
 0.000188438 2.77828e-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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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  
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	0.153305	0.318993			
Fmax	0.280737	0.51694			
F30%SPR	0.230649	0.43601			
F40%SPR	0.158871	0.327012			
Fmsy	0.204411	0.395064	SSBmsy	6.35383e+25	MSY
	1.21161e+25				
Fcurrent	0.586764	1.03479			

Stock-Recruitment Relationship Parameters

alpha = 2.91798e+25  
 beta = 1.03225e+25  
 unexpl = 2.25984e+26  
 steepness = 0.851259

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

Year	SSB	Obs Recruits	Pred Recruits	Standardized Residual
init	xxxx	79921.3	6895.37	5.1869
1982	7668.5	123682	21677.4	3.68653
1983	13116.5	44589	37077.8	0.390507
1984	12626.9	66874.1	35693.9	1.32908
1985	11034.5	72109.2	31192.5	1.774
1986	12582	22478.1	35566.8	-0.971406
1987	10319.1	40624.6	29170.2	0.701182
1988	6190.88	26168.4	17500.4	0.8517
1989	5943.41	33824.5	16800.9	1.48134
1990	7411.88	27610.9	20952	0.584232
1991	5330.35	49273	15067.9	2.50817
1992	5217.14	36531.7	14747.9	1.92024
1993	8993.8	41893.3	25423.7	1.05729
1994	12864.6	42575	36365.9	0.333704
1995	17270.1	29748.6	48819.3	-1.04861
1996	19359	28798.2	54724.3	-1.35907
1997	19800.3	32946.7	55971.8	-1.12188
1998	21405.5	24247.8	60509.1	-1.93587
1999	21545.2	28964.3	60904.2	-1.57339
2000	21923.9	30381.5	61974.6	-1.50914
2001	25023.3	32213.9	70736.1	-1.66509
2002	28221.5	21683.1	79776.9	-2.75774

2003	30733.3	33222.8	86877.1	-2.03492
2004	28544.5	16870.6	80689.8	-3.31309
2005	25558.8	22026.7	72249.9	-2.51466
2006	23825.8	xxxx	67350.9	

Root Mean Square Error computed from Standardized Residuals

Component	#resids	RMSE
_Catch_Fleet_1	25	1.15006
_Catch_Fleet_2	25	0.211925
_Catch_Fleet_3	25	4.55708
_Catch_Fleet_4	25	2.81316
_Catch_Fleet_5	25	0.495593
_Catch_Fleet_6	25	0.0692742
Catch_Fleet_Total	150	2.24718
_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	3.1099
_Index_2	25	2.5973
_Index_3	25	1.48293
_Index_4	25	7.45039
_Index_5	25	8.08223
_Index_6	23	1.77101
_Index_7	23	1.52043
_Index_8	25	3.99163
_Index_9	17	2.14715
_Index_10	19	1.14883
_Index_11	21	2.67517
_Index_12	25	1.81917
_Index_13	25	1.34097
Index_Total	293	3.82846
Nyear1	7	3.34493
Fmult_Year1	6	9.02474
_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	7.70217
Index_Sel_params	68	0.756962
q_year1	0	0
q_devs	0	0
SRR_steepness	0	0
SRR_unexpl_S	0	0

Projections not requested

that's all