

**ADAPT VPA BASE RUN (F08 BASE .OUT)**

VPA Version 2.7.1

Model ID: Summer flounder: agreed BASE configuration

Input File: C:\F2008\ADAPT\F08\_BASE\_00.DAT

Date of Run: 19-FEB-2008

Time of Run: 08:54

Levenburg-Marquardt Algorithm Completed      5 Iterations  
Residual Sum of Squares =      422.904

Number of Residuals      =      823  
Number of Parameters      =      6  
Degrees of Freedom      =      817  
Mean Squared Residual      =      0.517630  
Standard Deviation      =      0.719465

Number of Years =      25  
Number of Ages =      8  
First Year      =      1982  
Youngest Age      =      0  
Oldest True Age =      6

Number of Survey Indices Available      =      51  
Number of Survey Indices Used in Estimate =      39

VPA Classic Method - Auto Estimated Q's

Stock Numbers Predicted in Terminal Year Plus One (2007)

Age	Stock Predicted	Std. Error	CV
1	25416.986	0.629488E+04	0.247664E+00
2	10309.217	0.211378E+04	0.205038E+00
3	17336.856	0.313950E+04	0.181088E+00
4	5396.882	0.107440E+04	0.199078E+00
5	4052.447	0.975869E+03	0.240810E+00
6	1050.270	0.596189E+03	0.567654E+00

Catchability Values for Each Survey Used in Estimate

INDEX	Catchability	Std. Error	CV
1	0.141956E-03	0.269635E-04	0.189943E+00
2	0.416467E-03	0.456733E-04	0.109668E+00
3	0.341157E-03	0.456260E-04	0.133739E+00
4	0.337567E-03	0.675095E-04	0.199988E+00
5	0.447993E-03	0.742654E-04	0.165774E+00
6	0.138176E-04	0.196560E-05	0.142253E+00
7	0.379163E-04	0.379567E-05	0.100107E+00
8	0.344239E-04	0.555454E-05	0.161357E+00
9	0.383975E-04	0.476407E-05	0.124072E+00

10	0.652723E-04	0.813949E-05	0.124700E+00
11	0.676126E-04	0.443512E-05	0.655960E-01
12	0.811036E-04	0.103929E-04	0.128143E+00
13	0.756270E-04	0.106850E-04	0.141286E+00
15	0.406577E-04	0.766483E-05	0.188521E+00
16	0.432367E-04	0.710121E-05	0.164240E+00
18	0.168215E-03	0.178525E-04	0.106129E+00
19	0.657295E-04	0.129519E-04	0.197048E+00
21	0.173459E-04	0.278618E-05	0.160625E+00
22	0.184656E-04	0.284132E-05	0.153871E+00
23	0.295921E-04	0.560622E-05	0.189450E+00
24	0.425758E-04	0.678960E-05	0.159471E+00
25	0.107830E-03	0.138240E-04	0.128201E+00
26	0.882136E-04	0.121995E-04	0.138295E+00
27	0.606059E-04	0.105664E-04	0.174347E+00
29	0.111458E-03	0.169981E-04	0.152506E+00
30	0.854502E-04	0.180487E-04	0.211218E+00
31	0.104477E-04	0.217262E-05	0.207952E+00
32	0.209505E-04	0.353428E-05	0.168696E+00
33	0.158198E-03	0.236253E-04	0.149340E+00
34	0.688016E-04	0.153953E-04	0.223764E+00
35	0.436851E-04	0.803555E-05	0.183943E+00
36	0.588380E-04	0.101782E-04	0.172986E+00
40	0.184557E-05	0.398576E-06	0.215963E+00
41	0.281985E-04	0.321951E-05	0.114173E+00
43	0.238811E-03	0.304404E-04	0.127466E+00
44	0.392777E-04	0.583899E-05	0.148659E+00
45	0.818325E-05	0.123329E-05	0.150710E+00
50	0.548734E-05	0.107239E-05	0.195430E+00
51	0.105736E-05	0.214457E-06	0.202823E+00

-- Non-Linear Least Squares Fit --

Default Tolerances Used

Scaled Gradient Tolerance = 6.055454E-06  
 Scaled Step Tolerance = 3.666853E-11  
 Relative Function Tolerance = 3.666853E-11  
 Absolute Function Tolerance = 4.930381E-32

VPA Method Options

- Catchability Values Estimated as an Analytic Function of N
- Catch Equation Used in Cohort Solution
- Plus Group Backward Calculation Method Used
- Rivard Weights Used for JAN-1 Biomass
- Rivard Weights Calculation Used 3 Years for Terminal Year Plus One
  
- Heincke Rule Used in F-Oldest Calculation
- F-Oldest Calculation in Years Prior to Terminal Year  
 Uses Stock Sizes in Ages 3 to 6
- Calculation of Population of Age 0 In Year 2007  
 = CDF Using First Age Populations  
 Year Range Applied = 1982 to 2005

Stock Estimates

Age 1  
 Age 2  
 Age 3  
 Age 4  
 Age 5  
 Age 6

Full F in Terminal Year = 0.4413

F in Oldest True Age in Terminal Year = 0.4413

Full F Calculated Using Classic Method

Age	Input Partial Recruitment	Calc Partial Recruitment	Fishing Mortality	Used In Full F	Comments
0	0.020	0.012	0.0068	NO	Stock Estimate in
T+1					
1	0.130	0.162	0.0897	NO	Stock Estimate in
T+1					
2	0.670	0.421	0.2336	NO	Stock Estimate in
T+1					
3	1.000	0.784	0.4346	YES	Stock Estimate in
T+1					
4	1.000	0.605	0.3351	YES	Stock Estimate in
T+1					
5	1.000	1.000	0.5542	YES	Stock Estimate in
T+1					
6	1.000	0.796	0.4413		Input PR * Full F

Catch At Age - Input Data

AGE	1982	1983	1984	1985	1986
0	5344.0	4925.0	4802.0	2078.0	1942.0
1	19423.0	28441.0	26582.0	14623.0	17140.0
2	10149.0	10911.0	15454.0	17979.0	11055.0
3	935.0	2181.0	3180.0	1767.0	3782.0
4	328.0	693.0	829.0	496.0	316.0
5	116.0	323.0	95.0	252.0	140.0
6	67.0	16.0	4.0	30.0	58.0
7	30.0	43.0	10.0	8.0	15.0
AGE	1987	1988	1989	1990	1991
0	1137.0	795.0	960.0	1856.0	1001.0
1	17212.0	20557.0	4790.0	8808.0	12149.0
2	10838.0	14562.0	7306.0	2187.0	7148.0
3	1648.0	2137.0	1692.0	995.0	742.0
4	544.0	644.0	353.0	221.0	217.0
5	25.0	121.0	55.0	30.0	32.0
6	29.0	19.0	9.0	8.0	3.0
7	44.0	21.0	4.0	3.0	1.0
AGE	1992	1993	1994	1995	1996
0	1368.0	1285.0	1638.0	592.0	162.0
1	11197.0	11235.0	10362.0	5828.0	6925.0
2	6026.0	5601.0	6996.0	7303.0	9278.0
3	1125.0	566.0	982.0	1239.0	1785.0
4	151.0	73.0	205.0	397.0	417.0
5	70.0	45.0	26.0	77.0	71.0
6	2.0	20.0	14.0	4.0	16.0
7	1.0	3.0	5.0	1.0	3.0
AGE	1997	1998	1999	2000	2001
0	30.0	45.0	181.0	22.0	11.0
1	2545.0	2233.0	2185.0	1538.0	2888.0
2	8046.0	6380.0	6260.0	7967.0	4760.0
3	3149.0	5243.0	4018.0	4670.0	3737.0
4	553.0	980.0	1161.0	1529.0	1293.0
5	160.0	138.0	358.0	370.0	363.0
6	11.0	19.0	55.0	74.0	123.0
7	4.0	1.0	14.0	29.0	33.0

Catch At Age - Input Data

AGE	2002	2003	2004	2005	2006
0	272.0	259.0	107.0	245.0	191.0
1	1135.0	1583.0	1053.0	1936.0	1072.0
2	5411.0	4937.0	5668.0	3717.0	5070.0
3	3839.0	4002.0	4688.0	4045.0	3276.0
4	1302.0	1579.0	1907.0	2206.0	1796.0
5	319.0	563.0	769.0	1049.0	869.0
6	135.0	233.0	304.0	510.0	372.0
7	25.0	86.0	156.0	470.0	180.0

Weight At Age - Input Data

AGE	1982	1983	1984	1985	1986
0	0.2540	0.2400	0.2480	0.2890	0.2530
1	0.4180	0.4170	0.3960	0.4280	0.4530
2	0.6160	0.7160	0.6320	0.6130	0.6680
3	1.4470	1.0750	1.0460	1.1090	1.1600
4	1.9070	1.2570	1.5000	1.7260	1.7390
5	2.7950	1.4950	2.1630	2.2970	1.9940
6	2.6730	2.5720	3.3020	2.6710	3.3110
7	3.8510	2.5990	3.9200	4.7260	4.0910
AGE	1987	1988	1989	1990	1991
0	0.2590	0.3160	0.2080	0.2520	0.1450
1	0.4420	0.4630	0.4600	0.4310	0.4070
2	0.6510	0.6240	0.7230	0.8100	0.7020
3	1.1400	1.1300	1.0440	1.1690	1.1860
4	1.9410	1.7390	1.4790	1.5380	1.8110
5	2.8620	2.4850	2.2490	2.1210	2.5270
6	3.3370	3.8880	2.3990	3.4610	2.8370
7	3.5140	3.7610	2.7090	4.3660	3.5860
AGE	1992	1993	1994	1995	1996
0	0.2450	0.2640	0.3550	0.3900	0.3300
1	0.4700	0.4860	0.5280	0.5370	0.5100
2	0.7490	0.6990	0.6280	0.6780	0.5700
3	1.2220	1.4610	1.3530	1.0560	1.0800
4	1.3900	1.6590	2.0960	1.6390	1.5450
5	2.6960	1.8590	2.7360	2.6280	1.9570
6	2.3020	2.8160	3.4370	3.7500	2.5460
7	4.4790	2.4760	3.7050	4.0470	2.9890
AGE	1997	1998	1999	2000	2001
0	0.2120	0.2590	0.1430	0.0660	0.1140
1	0.4520	0.4900	0.3710	0.5080	0.5440
2	0.6390	0.6480	0.5940	0.6920	0.7660
3	0.8660	0.8590	0.8960	0.9250	0.9680
4	1.2330	1.3210	1.4390	1.3300	1.4490
5	2.2520	2.4100	1.9980	2.2190	2.1450
6	2.5720	2.5770	2.7160	2.5990	2.5970
7	2.9500	3.9830	3.4990	2.8260	3.3220

Weight At Age - Input Data

AGE	2002	2003	2004	2005	2006
0	0.1470	0.1490	0.3060	0.2020	0.1490
1	0.4930	0.5070	0.5170	0.4290	0.4430
2	0.7360	0.7590	0.7390	0.6920	0.6830
3	0.9580	1.0340	0.9680	0.9280	0.9600
4	1.3710	1.5310	1.3480	1.1860	1.2630
5	2.0990	2.0720	1.7520	1.5030	1.6440
6	2.6660	2.7590	2.3540	1.8890	2.1840
7	3.7420	3.9520	3.7360	3.6350	3.7870

JAN-1 Weights at Age - Input Data

AGE	1982	1983	1984	1985	1986
0	0.0000	0.0000	0.0000	0.0000	0.0000
1	0.3194	0.3255	0.3083	0.3258	0.3618
2	0.4663	0.5471	0.5134	0.4927	0.5347
3	1.5525	0.8138	0.8654	0.8372	0.8433
4	2.1538	1.3487	1.2698	1.3437	1.3887
5	2.9136	1.6885	1.6489	1.8562	1.8552
6	2.7333	2.6812	2.2218	2.4036	2.7578
7	3.8510	2.5990	3.9200	4.7260	4.0910
AGE	1987	1988	1989	1990	1991
0	0.0000	0.0000	0.0000	0.0000	0.0000
1	0.3344	0.3463	0.3813	0.2994	0.3203
2	0.5430	0.5252	0.5786	0.6104	0.5501
3	0.8727	0.8577	0.8071	0.9193	0.9801
4	1.5005	1.4080	1.2928	1.2672	1.4550
5	2.2309	2.1962	1.9776	1.7711	1.9714
6	2.5795	3.3358	2.4416	2.7899	2.4530
7	3.5140	3.7610	2.7090	4.3660	3.5860
AGE	1992	1993	1994	1995	1996
0	0.0000	0.0000	0.0000	0.0000	0.0000
1	0.2611	0.3451	0.3734	0.4366	0.4460
2	0.5521	0.5732	0.5525	0.5983	0.5533
3	0.9262	1.0461	0.9725	0.8144	0.8557
4	1.2840	1.4238	1.7499	1.4892	1.2773
5	2.2096	1.6075	2.1305	2.3470	1.7910
6	2.4119	2.7553	2.5277	3.2031	2.5867
7	4.4790	2.4760	3.7050	4.0470	2.9890
AGE	1997	1998	1999	2000	2001
0	0.0000	0.0000	0.0000	0.0000	0.0000
1	0.3862	0.3223	0.3100	0.2695	0.1895
2	0.5709	0.5412	0.5395	0.5067	0.6238
3	0.7026	0.7409	0.7620	0.7412	0.8184
4	1.1540	1.0696	1.1118	1.0916	1.1577
5	1.8653	1.7238	1.6246	1.7869	1.6890
6	2.2435	2.4090	2.5584	2.2788	2.4006
7	2.9500	3.9830	3.4990	2.8260	3.3220



JAN-1 Weights at Age - Input Data

AGE	2002	2003	2004	2005	2006
0	0.0000	0.0000	0.0000	0.0000	0.0000
1	0.2371	0.2730	0.2775	0.3623	0.2991
2	0.6328	0.6117	0.6121	0.5981	0.5413
3	0.8566	0.8724	0.8572	0.8281	0.8151
4	1.1520	1.2111	1.1806	1.0715	1.0826
5	1.7440	1.6854	1.6378	1.4234	1.3963
6	2.3914	2.4065	2.2085	1.8192	1.8118
7	3.7420	3.9520	3.7360	3.6350	3.7870
AGE	2007				
0	0.0000				
1	0.3130				
2	0.5838				
3	0.8334				
4	1.1116				
5	1.4858				
6	1.9465				
7	3.7193				

SSB Weight At Age - Input Data

AGE	1982	1983	1984	1985	1986
0	0.3020	0.2860	0.3000	0.3380	0.3080
1	0.5040	0.4820	0.4610	0.4990	0.5130
2	0.7490	0.8160	0.7690	0.7670	0.8050
3	1.3810	1.2060	1.2450	1.2960	1.3880
4	1.7610	1.5200	1.7390	1.8130	2.0690
5	2.7190	1.9820	2.3240	2.6060	2.3860
6	2.6230	3.4750	4.2560	3.6220	3.4470
7	3.8510	2.5990	3.9200	4.7260	4.0910
AGE	1987	1988	1989	1990	1991
0	0.3170	0.3600	0.2690	0.2980	0.2230
1	0.4980	0.5400	0.5610	0.5110	0.5040
2	0.7890	0.7470	0.8550	0.9240	0.8520
3	1.3200	1.2390	1.1940	1.3610	1.2520
4	2.1120	1.8990	1.6750	1.8280	2.0780
5	3.1790	2.4560	2.6110	2.3430	2.4500
6	3.6210	3.0980	3.7170	3.5450	3.9370
7	3.5140	3.7610	2.7090	4.3660	3.5860
AGE	1992	1993	1994	1995	1996
0	0.3120	0.3370	0.4100	0.4280	0.3680
1	0.5390	0.5310	0.5750	0.5480	0.5510
2	0.9480	0.8820	0.7530	0.7970	0.6590
3	1.3570	1.6550	1.4440	1.2040	1.1300
4	1.5360	1.9750	2.2640	1.7410	1.7600
5	2.7360	2.3070	3.0490	2.6000	2.1490
6	2.4190	3.4120	3.8460	3.2400	2.8170
7	4.4790	2.4760	3.7050	4.0470	2.9890
AGE	1997	1998	1999	2000	2001
0	0.2860	0.2930	0.2280	0.1490	0.1960
1	0.5120	0.5230	0.4620	0.5860	0.6030
2	0.7070	0.7240	0.6920	0.7770	0.8270
3	1.0020	1.0280	1.0270	1.0800	1.0910
4	1.5620	1.5240	1.6710	1.5710	1.6470
5	2.3570	2.5090	2.1820	2.3370	2.3100
6	3.5170	3.1950	2.7900	3.0790	3.3640
7	2.9500	3.9830	3.4990	2.8260	3.3220

SSB Weight At Age - Input Data

AGE	2002	2003	2004	2005	2006
0	0.2310	0.2370	0.2790	0.2670	0.2470
1	0.5730	0.5770	0.5800	0.5050	0.5380
2	0.8270	0.8240	0.7970	0.7740	0.7840
3	1.1280	1.1310	1.0370	1.0310	1.0610
4	1.5820	1.6020	1.3970	1.3270	1.4120
5	2.3050	2.1630	1.7960	1.7100	1.8470
6	3.5280	3.4140	3.2060	3.1600	3.2130
7	3.7420	3.9520	3.7360	3.6350	3.7870

Natural Mortality - Input Data

AGE	1982	1983	1984	1985	1986
0	0.2000	0.2000	0.2000	0.2000	0.2000
1	0.2000	0.2000	0.2000	0.2000	0.2000
2	0.2000	0.2000	0.2000	0.2000	0.2000
3	0.2000	0.2000	0.2000	0.2000	0.2000
4	0.2000	0.2000	0.2000	0.2000	0.2000
5	0.2000	0.2000	0.2000	0.2000	0.2000
6	0.2000	0.2000	0.2000	0.2000	0.2000
7	0.2000	0.2000	0.2000	0.2000	0.2000
AGE	1987	1988	1989	1990	1991
0	0.2000	0.2000	0.2000	0.2000	0.2000
1	0.2000	0.2000	0.2000	0.2000	0.2000
2	0.2000	0.2000	0.2000	0.2000	0.2000
3	0.2000	0.2000	0.2000	0.2000	0.2000
4	0.2000	0.2000	0.2000	0.2000	0.2000
5	0.2000	0.2000	0.2000	0.2000	0.2000
6	0.2000	0.2000	0.2000	0.2000	0.2000
7	0.2000	0.2000	0.2000	0.2000	0.2000
AGE	1992	1993	1994	1995	1996
0	0.2000	0.2000	0.2000	0.2000	0.2000
1	0.2000	0.2000	0.2000	0.2000	0.2000
2	0.2000	0.2000	0.2000	0.2000	0.2000
3	0.2000	0.2000	0.2000	0.2000	0.2000
4	0.2000	0.2000	0.2000	0.2000	0.2000
5	0.2000	0.2000	0.2000	0.2000	0.2000
6	0.2000	0.2000	0.2000	0.2000	0.2000
7	0.2000	0.2000	0.2000	0.2000	0.2000
AGE	1997	1998	1999	2000	2001
0	0.2000	0.2000	0.2000	0.2000	0.2000
1	0.2000	0.2000	0.2000	0.2000	0.2000
2	0.2000	0.2000	0.2000	0.2000	0.2000
3	0.2000	0.2000	0.2000	0.2000	0.2000
4	0.2000	0.2000	0.2000	0.2000	0.2000
5	0.2000	0.2000	0.2000	0.2000	0.2000
6	0.2000	0.2000	0.2000	0.2000	0.2000
7	0.2000	0.2000	0.2000	0.2000	0.2000

Natural Mortality - Input Data

AGE	2002	2003	2004	2005	2006
0	0.2000	0.2000	0.2000	0.2000	0.2000
1	0.2000	0.2000	0.2000	0.2000	0.2000
2	0.2000	0.2000	0.2000	0.2000	0.2000
3	0.2000	0.2000	0.2000	0.2000	0.2000
4	0.2000	0.2000	0.2000	0.2000	0.2000
5	0.2000	0.2000	0.2000	0.2000	0.2000
6	0.2000	0.2000	0.2000	0.2000	0.2000
7	0.2000	0.2000	0.2000	0.2000	0.2000
Proportion of Natural Mortality Before Spawning =					0.8300
Proportion of Fishing Mortality Before Spawning =					0.8300

Maturity - Input Data

AGE	1982	1983	1984	1985	1986
0	0.3800	0.3800	0.3800	0.3800	0.3800
1	0.9100	0.9100	0.9100	0.9100	0.9100
2	0.9800	0.9800	0.9800	0.9800	0.9800
3	1.0000	1.0000	1.0000	1.0000	1.0000
4	1.0000	1.0000	1.0000	1.0000	1.0000
5	1.0000	1.0000	1.0000	1.0000	1.0000
6	1.0000	1.0000	1.0000	1.0000	1.0000
7	1.0000	1.0000	1.0000	1.0000	1.0000
AGE	1987	1988	1989	1990	1991
0	0.3800	0.3800	0.3800	0.3800	0.3800
1	0.9100	0.9100	0.9100	0.9100	0.9100
2	0.9800	0.9800	0.9800	0.9800	0.9800
3	1.0000	1.0000	1.0000	1.0000	1.0000
4	1.0000	1.0000	1.0000	1.0000	1.0000
5	1.0000	1.0000	1.0000	1.0000	1.0000
6	1.0000	1.0000	1.0000	1.0000	1.0000
7	1.0000	1.0000	1.0000	1.0000	1.0000
AGE	1992	1993	1994	1995	1996
0	0.3800	0.3800	0.3800	0.3800	0.3800
1	0.9100	0.9100	0.9100	0.9100	0.9100
2	0.9800	0.9800	0.9800	0.9800	0.9800
3	1.0000	1.0000	1.0000	1.0000	1.0000
4	1.0000	1.0000	1.0000	1.0000	1.0000
5	1.0000	1.0000	1.0000	1.0000	1.0000
6	1.0000	1.0000	1.0000	1.0000	1.0000
7	1.0000	1.0000	1.0000	1.0000	1.0000
AGE	1997	1998	1999	2000	2001
0	0.3800	0.3800	0.3800	0.3800	0.3800
1	0.9100	0.9100	0.9100	0.9100	0.9100
2	0.9800	0.9800	0.9800	0.9800	0.9800
3	1.0000	1.0000	1.0000	1.0000	1.0000
4	1.0000	1.0000	1.0000	1.0000	1.0000
5	1.0000	1.0000	1.0000	1.0000	1.0000
6	1.0000	1.0000	1.0000	1.0000	1.0000
7	1.0000	1.0000	1.0000	1.0000	1.0000

Maturity - Input Data

AGE	2002	2003	2004	2005	2006
0	0.3800	0.3800	0.3800	0.3800	0.3800
1	0.9100	0.9100	0.9100	0.9100	0.9100
2	0.9800	0.9800	0.9800	0.9800	0.9800
3	1.0000	1.0000	1.0000	1.0000	1.0000
4	1.0000	1.0000	1.0000	1.0000	1.0000
5	1.0000	1.0000	1.0000	1.0000	1.0000
6	1.0000	1.0000	1.0000	1.0000	1.0000
7	1.0000	1.0000	1.0000	1.0000	1.0000

Input Partial Recruitment

AGE

0	0.0200
1	0.1300
2	0.6700
3	1.0000
4	1.0000
5	1.0000
6	1.0000

Input F-Plus Ratio

YEAR

1982	1.0000
1983	1.0000
1984	1.0000
1985	1.0000
1986	1.0000
1987	1.0000
1988	1.0000
1989	1.0000
1990	1.0000
1991	1.0000
1992	1.0000
1993	1.0000
1994	1.0000
1995	1.0000
1996	1.0000
1997	1.0000
1998	1.0000
1999	1.0000
2000	1.0000
2001	1.0000
2002	1.0000
2003	1.0000
2004	1.0000
2005	1.0000
2006	1.0000



SURVEY - INPUT DATA

INDEX	1	2	3	4	5
SURVEY TAG	NEC_W	NEC_W	NEC_W	NEC_W	NEC_W
AGE	1	2	3	4	5 - 7
TIME	JAN-1	JAN-1	JAN-1	JAN-1	JAN-1
TYPE	NUMBERS	NUMBERS	NUMBERS	NUMBERS	NUMBERS
RETRO FLAG	1	1	1	1	1
1982	0.0000	0.0000	0.0000	0.0000	0.0000
1983	0.0000	0.0000	0.0000	0.0000	0.0000
1984	0.0000	0.0000	0.0000	0.0000	0.0000
1985	0.0000	0.0000	0.0000	0.0000	0.0000
1986	0.0000	0.0000	0.0000	0.0000	0.0000
1987	0.0000	0.0000	0.0000	0.0000	0.0000
1988	0.0000	0.0000	0.0000	0.0000	0.0000
1989	0.0000	0.0000	0.0000	0.0000	0.0000
1990	0.0000	0.0000	0.0000	0.0000	0.0000
1991	0.0000	0.0000	0.0000	0.0000	0.0000
1992	7.1500	4.7400	0.3300	0.0400	0.0400
1993	6.5000	6.7000	0.3100	0.0500	0.0400
1994	3.7600	7.2000	0.8200	0.2600	0.0100
1995	6.0700	4.5900	0.2500	0.0200	0.0000
1996	22.1700	8.3300	0.6000	0.1200	0.0300
1997	3.8600	4.8000	1.0400	0.4300	0.1500
1998	1.6800	3.2500	2.2900	0.4200	0.1200
1999	2.1100	4.8000	2.9000	0.8400	0.4100
2000	0.7000	6.5200	4.9600	2.5100	1.0800
2001	3.0700	5.3300	6.4200	2.4400	1.3400
2002	2.7700	10.7400	5.5800	2.2600	1.3300
2003	8.1700	14.3600	8.4800	2.6700	1.9600
2004	1.4500	8.6800	4.5600	1.6400	1.4400
2005	2.9600	4.0300	3.0700	1.3400	1.4900
2006	2.6400	9.0600	4.2900	2.4700	2.5800
2007	2.7700	6.1800	5.1500	1.5400	1.1900

SURVEY - INPUT DATA

INDEX	6	7	8	9	10
SURVEY TAG	NEC_S	NEC_S	NEC_S	NEC_S	NEC_S
AGE	1	2	3	4	5 - 7
TIME	JAN-1	JAN-1	JAN-1	JAN-1	JAN-1
TYPE	NUMBERS	NUMBERS	NUMBERS	NUMBERS	NUMBERS
RETRO FLAG	1	1	1	1	1
1982	0.7000	1.4300	0.1200	0.0200	0.0000
1983	0.3200	0.3900	0.1900	0.0300	0.0200
1984	0.1700	0.3300	0.0900	0.0500	0.0200
1985	0.5500	1.5600	0.2100	0.0400	0.0200
1986	1.4800	0.4300	0.2000	0.0200	0.0100
1987	0.4700	0.4300	0.0200	0.0100	0.0000
1988	0.6000	0.8100	0.0700	0.0200	0.0000
1989	0.0600	0.2300	0.0200	0.0100	0.0000
1990	0.6300	0.0300	0.0600	0.0000	0.0000
1991	0.7900	0.2700	0.0000	0.0200	0.0000
1992	0.7700	0.4100	0.0100	0.0000	0.0100
1993	0.7300	0.5000	0.0400	0.0000	0.0000
1994	0.3500	0.5300	0.0400	0.0100	0.0000
1995	0.7900	0.2700	0.0200	0.0000	0.0100
1996	1.0800	0.5600	0.1200	0.0000	0.0000
1997	0.2900	0.6700	0.0900	0.0100	0.0000
1998	0.2700	0.5200	0.3200	0.0600	0.0200
1999	0.2200	0.7400	0.4800	0.1300	0.0300
2000	0.1900	1.0300	0.6300	0.1200	0.1700
2001	0.4800	0.8900	1.0200	0.2000	0.1000
2002	0.3400	0.8900	0.7400	0.3100	0.1900
2003	0.5400	1.2900	0.5900	0.2900	0.2100
2004	0.3000	1.4500	0.8500	0.2700	0.1500
2005	0.2600	0.6500	0.5800	0.1500	0.1700
2006	0.0400	1.0400	0.2400	0.2500	0.2000
2007	0.2400	0.5200	1.4600	0.5700	0.4600

SURVEY - INPUT DATA

INDEX	11	12	13	14	15
SURVEY TAG	NEC_F	NEC_F	NEC_F	MA_S	MA_S
AGE	2	3	4	1	2
TIME	JAN-1	JAN-1	JAN-1	JAN-1	JAN-1
TYPE	NUMBERS	NUMBERS	NUMBERS	NUMBERS	NUMBERS
RETRO FLAG	1	1	1	0	0
1982	0.0000	0.0000	0.0000	0.3500	1.5840
1983	1.5200	0.4000	0.0300	0.0510	0.5990
1984	1.4600	0.3400	0.1200	0.0440	0.0780
1985	1.3900	0.4300	0.0700	0.1540	1.2600
1986	0.8000	0.4600	0.0500	0.9950	0.5220
1987	0.8300	0.1100	0.1100	0.6560	0.6400
1988	0.5800	0.2000	0.0300	0.2110	1.0050
1989	0.6200	0.1800	0.0300	0.0000	0.3630
1990	0.2100	0.0500	0.0000	0.2570	0.0210
1991	0.3800	0.0300	0.0400	0.0320	0.0500
1992	0.8400	0.0900	0.0000	0.2800	0.3420
1993	1.0400	0.2500	0.0300	0.1260	0.4920
1994	0.8000	0.0300	0.0100	1.8600	1.2170
1995	0.6700	0.0900	0.0100	0.1040	1.3020
1996	1.1600	0.2800	0.0200	0.0760	0.6860
1997	1.2400	0.5700	0.0400	0.5440	1.2790
1998	1.2900	1.1400	0.2900	0.1440	1.2120
1999	2.1300	1.6300	0.3300	0.0780	0.8780
2000	1.7300	1.4900	0.3100	0.2370	1.6590
2001	1.2000	1.2200	0.4000	0.1860	1.0260
2002	1.3600	0.9300	0.3700	0.1510	1.5110
2003	1.1700	0.8600	0.3500	0.2060	1.4400
2004	1.3100	1.0300	0.2500	0.0270	0.2830
2005	1.4900	1.3700	0.6600	0.1360	0.3510
2006	1.1400	0.5400	0.4700	0.0490	2.4400
2007	0.7200	1.2200	0.3500	0.0000	0.0000

SURVEY - INPUT DATA

INDEX	16	17	18	19	20
SURVEY TAG	MA_S	MA_F	MA_F	MA_F	CT_S
AGE	3	2	3	4	1
TIME	JAN-1	JAN-1	JAN-1	JAN-1	JAN-1
TYPE	NUMBERS	NUMBERS	NUMBERS	NUMBERS	NUMBERS
RETRO FLAG	0	1	1	1	0
1982	0.1420	0.4000	0.4050	0.0120	0.0000
1983	0.4500	0.2340	1.6620	0.0200	0.0000
1984	0.0670	0.0330	0.6250	0.1540	0.3140
1985	0.0360	0.4850	0.2670	0.1270	0.0150
1986	0.1850	0.1170	1.8950	0.0400	0.7530
1987	0.0130	2.3160	0.6790	0.2140	0.9510
1988	0.1230	1.2020	0.6630	0.0110	0.2320
1989	0.1020	0.4740	0.4290	0.0060	0.0130
1990	0.0810	0.0000	0.3170	0.0160	0.3040
1991	0.0120	0.1130	0.0000	0.0110	0.3920
1992	0.0900	0.5310	0.2880	0.0060	0.3190
1993	0.0650	1.1810	0.1860	0.0000	0.3200
1994	0.0480	0.3350	0.4780	0.0300	0.4960
1995	0.0530	2.2340	0.0760	0.0000	0.1990
1996	0.1140	0.3420	0.5060	0.0000	0.5780
1997	0.1810	0.7610	1.2820	0.1140	0.3910
1998	0.6590	0.4940	1.5080	0.3510	0.0640
1999	1.1120	0.0120	0.5900	0.2620	0.2450
2000	1.2050	0.3470	0.9400	0.3790	0.3210
2001	0.7300	1.3830	2.3030	0.4940	0.8410
2002	0.3970	1.2440	1.0830	0.3070	1.0570
2003	0.6240	2.6810	1.3020	0.1780	1.6080
2004	0.3230	3.0590	1.2540	0.2560	0.2590
2005	1.0290	0.5890	1.4550	0.1360	0.2530
2006	0.9750	1.5570	2.0490	1.3500	0.0380
2007	0.0000	0.5860	3.7450	0.5590	0.0000

SURVEY - INPUT DATA

INDEX	21	22	23	24	25
SURVEY TAG	CT_S	CT_S	CT_S	CT_F	CT_F
AGE	2	3	4	2	3
TIME	JAN-1	JAN-1	JAN-1	JAN-1	JAN-1
TYPE	NUMBERS	NUMBERS	NUMBERS	NUMBERS	NUMBERS
RETRO FLAG	0	0	0	1	1
1982	0.0000	0.0000	0.0000	0.0000	0.0000
1983	0.0000	0.0000	0.0000	0.0000	0.0000
1984	0.2710	0.0440	0.0000	0.0000	0.0000
1985	0.3250	0.0400	0.0580	0.5710	0.3310
1986	0.1000	0.0820	0.0080	0.3390	0.5280
1987	0.0860	0.0140	0.0040	1.1700	0.2980
1988	0.2230	0.0350	0.0090	1.0670	0.2230
1989	0.0490	0.0240	0.0160	0.8840	0.4810
1990	0.0220	0.0130	0.0060	0.0290	0.0950
1991	0.1890	0.0290	0.0280	0.6740	0.1100
1992	0.1880	0.0210	0.0040	0.8260	0.3400
1993	0.1510	0.0150	0.0180	0.5700	0.3660
1994	0.3140	0.0250	0.0180	0.8270	0.1520
1995	0.0510	0.0200	0.0050	0.3000	0.0850
1996	0.2660	0.0860	0.0230	0.3840	0.1170
1997	0.5070	0.0570	0.0360	0.8870	1.1880
1998	0.5940	0.5030	0.1160	0.6810	1.3730
1999	0.5930	0.3850	0.1390	0.2690	1.0540
2000	0.7260	0.5240	0.0740	0.6790	1.4840
2001	0.3400	0.3650	0.1200	0.3950	0.8710
2002	1.2640	0.4650	0.2330	2.6890	1.1370
2003	1.0160	0.3950	0.2320	3.0870	1.9300
2004	0.8180	0.4100	0.1940	1.4590	1.3190
2005	0.2640	0.1500	0.0330	0.3850	0.7550
2006	0.3600	0.0680	0.0650	1.0930	0.7440
2007	0.0000	0.0000	0.0000	0.2170	0.5920

SURVEY - INPUT DATA

INDEX	26	27	28	29	30
SURVEY TAG	CT_F	CT_F	RI_F	RI_F	RI_F
AGE	4	5 - 7	2	3	4
TIME	JAN-1	JAN-1	JAN-1	JAN-1	JAN-1
TYPE	NUMBERS	NUMBERS	NUMBERS	NUMBERS	NUMBERS
RETRO FLAG	1	1	1	1	1
1982	0.0000	0.0000	0.9700	1.7400	0.2000
1983	0.0000	0.0000	0.2100	0.5200	0.0700
1984	0.0000	0.0000	0.1400	0.4200	0.1100
1985	0.0720	0.0250	0.7400	0.4900	0.1000
1986	0.0750	0.0090	0.3100	0.2800	0.0200
1987	0.0720	0.0070	2.4500	0.5100	0.1300
1988	0.0330	0.0030	0.9400	0.3700	0.0200
1989	0.0370	0.0030	0.3400	0.2400	0.0000
1990	0.0150	0.0010	0.0150	0.0700	0.0000
1991	0.0420	0.0120	0.6700	0.1200	0.0000
1992	0.0360	0.0220	0.1200	0.0800	0.0100
1993	0.0460	0.0250	0.7700	0.4100	0.1100
1994	0.0390	0.0070	0.4100	0.2200	0.0700
1995	0.0240	0.0090	0.1200	0.0300	0.0000
1996	0.0120	0.0050	0.5300	0.2000	0.0000
1997	0.0420	0.0050	0.9500	1.0300	0.0100
1998	0.3730	0.0400	0.5600	0.9600	0.0300
1999	0.3210	0.0750	0.0900	0.3600	0.0900
2000	0.3460	0.1270	1.0400	1.9100	0.3500
2001	0.3410	0.1910	0.5000	1.2400	0.4500
2002	0.4360	0.1340	1.0500	0.6300	0.3000
2003	0.4790	0.1830	2.4200	1.3800	0.4000
2004	0.4070	0.2030	2.3500	2.0800	0.4900
2005	0.4400	0.1190	0.4800	1.3000	0.7800
2006	0.3550	0.1510	0.8400	1.3800	0.6900
2007	0.2300	0.1790	0.1400	1.1300	0.4400

SURVEY - INPUT DATA

INDEX	31	32	33	34	35
SURVEY TAG	RI_X	RI_X	NJ	NJ	NJ
AGE	1	2 - 7	1	2	3
TIME	JAN-1	JAN-1	JAN-1	JAN-1	JAN-1
TYPE	NUMBERS	NUMBERS	NUMBERS	NUMBERS	NUMBERS
RETRO FLAG	0	0	0	0	0
1982	0.0000	0.0000	0.0000	0.0000	0.0000
1983	0.0000	0.0000	0.0000	0.0000	0.0000
1984	0.0000	0.0000	0.0000	0.0000	0.0000
1985	0.0000	0.0000	0.0000	0.0000	0.0000
1986	0.0000	0.0000	0.0000	0.0000	0.0000
1987	0.0000	0.0000	0.0000	0.0000	0.0000
1988	0.0000	0.0000	3.0600	1.0300	0.0000
1989	0.0000	0.0000	0.5100	0.1800	0.0000
1990	0.1700	0.1000	1.4400	0.1100	0.0300
1991	0.0700	0.0800	2.6900	0.2700	0.0200
1992	0.1500	0.1800	3.0000	0.5700	0.0600
1993	0.1100	0.1400	5.6900	0.2000	0.0100
1994	0.0800	0.0500	1.0700	0.0800	0.0000
1995	0.2000	0.2200	2.9300	0.2800	0.0500
1996	0.4100	0.5300	5.1000	2.7000	0.1800
1997	0.1700	0.5200	8.2500	5.2500	1.0200
1998	0.0700	0.3600	5.8000	2.6700	0.2900
1999	0.2600	0.6100	6.1200	3.4600	0.6500
2000	0.6300	1.8900	3.9100	1.8200	0.4500
2001	0.4200	0.5500	3.3200	1.1800	0.4100
2002	0.8100	1.1100	9.1100	4.1300	1.2800
2003	1.4800	2.2500	5.6100	2.5500	0.5700
2004	0.5400	1.5300	6.2700	2.4900	0.5700
2005	0.5500	1.8900	5.9900	1.2400	0.5300
2006	0.1900	1.0900	5.7400	3.2200	0.4800
2007	0.0000	0.0000	0.0000	0.0000	0.0000

SURVEY - INPUT DATA

INDEX	36	37	38	39	40
SURVEY TAG	NJ	DE	DE	DE	CT_Y
AGE	4 - 7	1	2	3	0
TIME	JAN-1	JAN-1	JAN-1	JAN-1	JAN-1
TYPE	NUMBERS	NUMBERS	NUMBERS	NUMBERS	NUMBERS
RETRO FLAG	0	0	0	0	0
1982	0.0000	0.0000	0.0000	0.0000	0.0000
1983	0.0000	0.0000	0.0000	0.0000	0.0000
1984	0.0000	0.0000	0.0000	0.0000	0.0000
1985	0.0000	0.0000	0.0000	0.0000	0.2400
1986	0.0000	0.0000	0.0000	0.0000	0.1720
1987	0.0000	0.0000	0.0000	0.0000	0.0750
1988	0.0000	0.0000	0.0000	0.0000	0.0150
1989	0.0000	0.0000	0.0000	0.0000	0.0000
1990	0.0000	0.0000	0.0000	0.0000	0.0320
1991	0.0000	1.1300	0.1800	0.0400	0.0360
1992	0.0200	0.2800	0.0800	0.0000	0.0130
1993	0.0100	1.5600	0.7300	0.0700	0.0840
1994	0.0200	0.1400	0.2200	0.0800	0.1320
1995	0.1600	1.0000	0.2800	0.1000	0.0230
1996	0.0500	0.7300	0.4800	0.1000	0.0690
1997	0.1800	0.1200	0.4900	0.4700	0.0330
1998	0.0400	0.3100	0.8300	0.2900	0.0000
1999	0.1800	0.0600	0.7700	0.4700	0.0440
2000	0.2200	0.2400	0.3000	0.2800	0.0120
2001	0.1500	1.5500	0.4900	0.2600	0.0210
2002	0.8100	0.2300	0.0900	0.0000	0.4420
2003	0.5100	0.1400	0.2900	0.1500	0.0000
2004	0.4300	0.0700	0.0600	0.0100	0.2550
2005	0.3200	0.3000	0.1100	0.0200	0.0670
2006	0.4000	0.1000	0.2300	0.0700	0.0980
2007	0.0000	0.0000	0.0000	0.0000	0.0000



SURVEY - INPUT DATA

INDEX	41	42	43	44	45
SURVEY TAG	VA_CRY	NC_Y	MD_Y	NJ_Y	NEC_Y
AGE	0	0	0	0	0
TIME	JAN-1	JAN-1	JAN-1	JAN-1	JAN-1
TYPE	NUMBERS	NUMBERS	NUMBERS	NUMBERS	NUMBERS
RETRO FLAG	0	0	0	0	0
1982	2.2700	0.0000	3.4080	0.0000	0.5500
1983	5.0100	0.0000	17.6990	0.0000	0.9600
1984	1.5800	0.0000	13.3100	0.0000	0.1800
1985	1.2600	0.0000	12.8430	0.0000	0.5900
1986	1.2600	0.0000	59.5260	0.0000	0.3900
1987	0.3900	19.8600	7.5840	0.0000	0.0700
1988	0.5400	2.6100	1.7630	0.1700	0.0600
1989	1.2400	6.6300	2.8550	1.0000	0.3100
1990	2.5400	4.2700	4.7330	1.2800	0.4400
1991	2.6400	5.8500	7.3370	1.0000	0.7600
1992	0.8900	9.1400	8.4870	1.1000	0.9900
1993	0.5000	5.1300	4.1450	2.5500	0.2300
1994	2.4100	8.1700	22.3110	1.6600	0.7500
1995	0.6300	6.6500	13.0670	4.9500	0.9300
1996	0.8100	30.6700	6.4930	1.6600	0.1100
1997	0.8900	14.1400	7.9970	1.6500	0.1700
1998	0.7300	10.4400	14.9830	0.6700	0.3800
1999	0.5300	0.0000	8.5650	1.0300	0.2100
2000	0.5700	3.9400	9.8740	0.9500	0.2200
2001	0.4700	22.0300	13.5430	0.6200	0.1200
2002	0.7700	18.2800	5.4060	1.5100	0.0600
2003	0.4400	7.2300	8.1800	0.6000	0.1800
2004	1.3000	5.9000	6.9930	0.9000	0.3600
2005	0.3500	9.8800	2.1980	3.1100	0.1600
2006	0.8000	1.9600	9.6580	0.8100	0.3100
2007	0.0000	0.0000	0.0000	0.0000	0.0000

SURVEY - INPUT DATA

INDEX	46	47	48	49	50
SURVEY TAG	MA_Y	DE30_Y	RI_Y	DE_EY	DE_IY
AGE	0	0	0	0	0
TIME	JAN-1	JAN-1	JAN-1	JAN-1	JAN-1
TYPE	NUMBERS	NUMBERS	NUMBERS	NUMBERS	NUMBERS
RETRO FLAG	0	0	0	0	0
1982	3.0000	0.0000	0.0200	0.1100	0.0000
1983	3.0000	0.0000	0.0300	0.0310	0.0000
1984	1.0000	0.0000	0.0200	0.0760	0.0000
1985	19.0000	0.0000	0.3500	0.0630	0.0000
1986	5.0000	0.0000	0.3500	0.0960	0.3200
1987	4.0000	0.0000	0.0400	0.1360	0.2600
1988	2.0000	0.0000	0.0000	0.0070	0.0100
1989	3.0000	0.0000	0.0000	0.1150	0.1400
1990	11.0000	0.0000	0.0500	0.2290	0.3600
1991	4.0000	1.4400	0.0000	0.0730	0.3800
1992	0.0000	0.4700	0.0100	0.3150	0.3700
1993	2.0000	0.0400	0.0100	0.0290	0.0500
1994	1.0000	2.2800	0.0400	0.2940	0.5700
1995	13.0000	0.9400	0.0200	0.1700	0.3000
1996	7.0000	0.4600	0.1000	0.0330	0.0800
1997	0.0000	0.0300	0.0300	0.0160	0.2200
1998	12.0000	0.1100	0.0000	0.0250	0.3900
1999	13.0000	0.2000	0.0200	0.0480	0.3500
2000	10.0000	0.7900	0.4000	0.1770	0.2100
2001	1.0000	0.3400	0.0000	0.0740	0.1400
2002	70.0000	0.0400	0.4400	0.0670	0.1300
2003	11.0000	0.1500	0.1000	0.0910	0.2100
2004	4.0000	0.0200	0.0300	0.1010	0.2700
2005	0.0000	0.0000	0.0100	0.0040	0.0100
2006	43.0000	0.4100	0.1000	0.0200	0.1700
2007	0.0000	0.0000	0.0000	0.0000	0.0000

INDEX	51				
SURVEY TAG	RI_XY				
AGE	0	NUMBERS	NUMBERS	NUMBERS	NUMBERS
TIME	JAN-1	NUMBERS	NUMBERS	NUMBERS	NUMBERS
TYPE	NUMBERS	NUMBERS	NUMBERS	NUMBERS	NUMBERS
RETRO FLAG	0				
1982	0.0000				
1983	0.0000				
1984	0.0000				
1985	0.0000				
1986	0.0000				
1987	0.0000				
1988	0.0000				

1989	0.0000
1990	0.0200
1991	0.0000
1992	0.0100
1993	0.0100
1994	0.0400
1995	0.0300
1996	0.0200
1997	0.0400
1998	0.0000
1999	0.0300
2000	0.0900
2001	0.0100
2002	0.1100
2003	0.0500
2004	0.1000
2005	0.0400
2006	0.0400
2007	0.0000

Additional Output Files

Population File C:\F2008\ADAPT\F08\_BASE\_00.PP2  
 Auxilliary File C:\F2008\ADAPT\F08\_BASE\_00.AUX  
 Covariance File C:\F2008\ADAPT\F08\_BASE\_00.CV  
 Residuals File C:\F2008\ADAPT\F08\_BASE\_00.RSD  
 Log File C:\F2008\ADAPT\F08\_BASE\_00.LOG

Bootstrap Files

Bootstrap Stock Numbers C:\F2008\ADAPT\F08\_BASE\_00.BSN  
 Bootstrap Fishing Mortality C:\F2008\ADAPT\F08\_BASE\_00.BSF  
 Bootstrap Biomass C:\F2008\ADAPT\F08\_BASE\_00.BSB  
 Bootstrap Catchability C:\F2008\ADAPT\F08\_BASE\_00.BSQ

Estimation Results

JAN-1 Population Numbers

AGE	1982	1983	1984	1985	1986
0	72766.	78883.	47542.	47670.	52295.
1	42166.	54755.	60140.	34595.	37153.
2	15890.	17178.	19487.	25486.	15249.
3	2162.	4014.	4392.	2401.	4992.
4	780.	935.	1345.	791.	409.
5	157.	345.	155.	366.	208.
6	151.	27.	6.	42.	77.
7	67.	71.	14.	11.	20.
=====					
Total	134140.	156209.	133081.	111363.	110403.
AGE	1987	1988	1989	1990	1991
0	43018.	12833.	26720.	29764.	28185.
1	41062.	34194.	9790.	21010.	22694.
2	15113.	18227.	9742.	3742.	9325.
3	2737.	2812.	2159.	1545.	1120.
4	761.	778.	423.	282.	384.
5	57.	143.	74.	38.	37.
6	47.	24.	11.	12.	5.
7	71.	27.	5.	4.	2.
=====					
Total	102865.	69038.	48923.	56398.	61751.
AGE	1992	1993	1994	1995	1996
0	31780.	32665.	34771.	38198.	27954.
1	22172.	24784.	25584.	26990.	30739.
2	7761.	8170.	10256.	11676.	16856.
3	1351.	1062.	1738.	2211.	3083.
4	260.	123.	365.	550.	708.
5	121.	79.	36.	117.	100.
6	3.	37.	25.	7.	27.
7	1.	6.	9.	2.	5.
=====					
Total	63450.	66927.	72784.	79750.	79473.
AGE	1997	1998	1999	2000	2001
0	28783.	30888.	28646.	32574.	30385.
1	22741.	23539.	25248.	23290.	26650.
2	18941.	16325.	17259.	18701.	17680.
3	5544.	8314.	7655.	8522.	8188.
4	937.	1738.	2158.	2688.	2821.
5	210.	276.	552.	733.	841.
6	19.	31.	103.	135.	270.
7	7.	2.	26.	53.	73.
=====					
Total	77182.	81112.	81646.	86695.	86908.

JAN-1 Population Numbers

AGE	2002	2003	2004	2005	2006
0	35186.	26343.	42627.	17092.	31255.
1	24867.	28562.	21334.	34803.	13773.
2	19216.	19335.	21956.	16516.	26747.
3	10200.	10874.	11395.	12884.	10180.
4	3366.	4914.	5319.	5136.	6920.
5	1155.	1590.	2607.	2646.	2233.
6	364.	659.	798.	1444.	1228.
7	67.	243.	409.	1331.	553.
=====					
Total	94421.	92521.	106444.	91853.	92889.
=====					
AGE	2007				
=====					
0	32177.				
1	25417.				
2	10309.				
3	17337.				
4	5397.				
5	4052.				
6	1050.				
7	937.				
=====					
Total	96677.				

Fishing Mortality Calculated

AGE	1982	1983	1984	1985	1986
0	0.0844	0.0713	0.1179	0.0492	0.0418
1	0.6980	0.8331	0.6586	0.6192	0.6995
2	1.1758	1.1639	1.8939	1.4302	1.5177
3	0.6388	0.8934	1.5136	1.5702	1.6815
4	0.6148	1.5978	1.1022	1.1359	1.7679
5	1.5776	3.8962	1.0938	1.3612	1.2981
6	0.6639	1.0573	1.3915	1.4349	1.6703
7	0.6639	1.0573	1.3915	1.4349	1.6703
AGE	1987	1988	1989	1990	1991
0	0.0296	0.0707	0.0404	0.0712	0.0399
1	0.6122	1.0556	0.7617	0.6123	0.8729
2	1.4817	1.9333	1.6411	1.0060	1.7318
3	1.0584	1.6949	1.8341	1.1932	1.2589
4	1.4729	2.1550	2.2134	1.8275	0.9528
5	0.6492	2.3292	1.6175	1.8925	2.4672
6	1.1251	1.7945	1.8786	1.2780	1.1892
7	1.1251	1.7945	1.8786	1.2780	1.1892
AGE	1992	1993	1994	1995	1996
0	0.0486	0.0443	0.0533	0.0172	0.0064
1	0.7984	0.6823	0.5844	0.2707	0.2842
2	1.7892	1.3478	1.3342	1.1318	0.9121
3	2.1928	0.8671	0.9514	0.9384	0.9906
4	0.9925	1.0261	0.9410	1.5058	1.0183
5	0.9870	0.9633	1.4841	1.2495	1.4557
6	1.7790	0.8874	0.9566	1.0366	1.0052
7	1.7790	0.8874	0.9566	1.0366	1.0052
AGE	1997	1998	1999	2000	2001
0	0.0012	0.0016	0.0070	0.0007	0.0004
1	0.1315	0.1103	0.1002	0.0756	0.1271
2	0.6234	0.5573	0.5056	0.6259	0.3500
3	0.9597	1.1487	0.8466	0.9056	0.6889
4	1.0223	0.9478	0.8797	0.9620	0.6931
5	1.7155	0.7863	1.2111	0.7978	0.6373
6	0.9851	1.1008	0.8699	0.9110	0.6861
7	0.9851	1.1008	0.8699	0.9110	0.6861

Fishing Mortality Calculated

AGE	2002	2003	2004	2005	2006
0	0.0086	0.0109	0.0028	0.0159	0.0068
1	0.0516	0.0630	0.0559	0.0633	0.0897
2	0.3693	0.3288	0.3330	0.2839	0.2336
3	0.5304	0.5152	0.5969	0.4216	0.4346
4	0.5497	0.4339	0.4982	0.6330	0.3351
5	0.3609	0.4900	0.3906	0.5680	0.5542
6	0.5203	0.4892	0.5391	0.4885	0.4413
7	0.5203	0.4892	0.5391	0.4885	0.4413

Average Fishing Mortality For Ages 3- 5

Year Average F N Weighted Biomass Wtd Catch Wtd

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1982	0.9438	0.6804	0.7098	0.7121
1983	2.1291	1.2136	1.4097	1.3494
1984	1.2365	1.4087	1.3731	1.4208
1985	1.3558	1.4521	1.4093	1.4636
1986	1.5825	1.6736	1.6624	1.6753
1987	1.0602	1.1406	1.1735	1.1555
1988	2.0597	1.8150	1.8788	1.8234
1989	1.8883	1.8885	1.9063	1.8922
1990	1.6378	1.3034	1.3416	1.3226
1991	1.5597	1.2119	1.2113	1.2309
1992	1.3908	1.9280	1.8020	1.9954
1993	0.9522	0.8886	0.8955	0.8904
1994	1.1255	0.9586	0.9657	0.9610
1995	1.2312	1.0594	1.1283	1.0839
1996	1.1549	1.0076	1.0197	1.0102
1997	1.2325	0.9921	1.0273	1.0000
1998	0.9609	1.1052	1.0845	1.1099
1999	0.9791	0.8729	0.8911	0.8771
2000	0.8884	0.9117	0.9079	0.9127
2001	0.6731	0.6862	0.6837	0.6864
2002	0.4803	0.5215	0.5122	0.5251
2003	0.4797	0.4899	0.4848	0.4920
2004	0.4952	0.5419	0.5230	0.5498
2005	0.5408	0.4928	0.5076	0.5065
2006	0.4413	0.4128	0.4149	0.4221



Back Calculated Partial Recruitment

AGE	1982	1983	1984	1985	1986
0	0.0535	0.0183	0.0623	0.0314	0.0236
1	0.4424	0.2138	0.3477	0.3944	0.3957
2	0.7453	0.2987	1.0000	0.9108	0.8585
3	0.4049	0.2293	0.7992	1.0000	0.9512
4	0.3897	0.4101	0.5820	0.7234	1.0000
5	1.0000	1.0000	0.5775	0.8669	0.7343
6	0.4208	0.2714	0.7347	0.9138	0.9448
7	0.4208	0.2714	0.7347	0.9138	0.9448
AGE	1987	1988	1989	1990	1991
0	0.0200	0.0304	0.0183	0.0376	0.0162
1	0.4132	0.4532	0.3441	0.3235	0.3538
2	1.0000	0.8300	0.7414	0.5316	0.7019
3	0.7144	0.7277	0.8287	0.6305	0.5103
4	0.9941	0.9252	1.0000	0.9657	0.3862
5	0.4382	1.0000	0.7307	1.0000	1.0000
6	0.7593	0.7704	0.8488	0.6753	0.4820
7	0.7593	0.7704	0.8488	0.6753	0.4820
AGE	1992	1993	1994	1995	1996
0	0.0222	0.0329	0.0359	0.0115	0.0044
1	0.3641	0.5063	0.3938	0.1798	0.1952
2	0.8159	1.0000	0.8990	0.7516	0.6265
3	1.0000	0.6433	0.6411	0.6232	0.6805
4	0.4526	0.7613	0.6340	1.0000	0.6995
5	0.4501	0.7148	1.0000	0.8298	1.0000
6	0.8113	0.6584	0.6446	0.6884	0.6905
7	0.8113	0.6584	0.6446	0.6884	0.6905
AGE	1997	1998	1999	2000	2001
0	0.0007	0.0014	0.0058	0.0008	0.0006
1	0.0766	0.0961	0.0827	0.0785	0.1833
2	0.3634	0.4851	0.4175	0.6506	0.5050
3	0.5594	1.0000	0.6991	0.9414	0.9939
4	0.5959	0.8251	0.7264	1.0000	1.0000
5	1.0000	0.6844	1.0000	0.8293	0.9195
6	0.5742	0.9582	0.7183	0.9470	0.9900
7	0.5742	0.9582	0.7183	0.9470	0.9900

Back Calculated Partial Recruitment

AGE	2002	2003	2004	2005	2006
0	0.0156	0.0212	0.0046	0.0252	0.0122
1	0.0939	0.1223	0.0937	0.1000	0.1618
2	0.6718	0.6382	0.5579	0.4485	0.4215
3	0.9648	1.0000	1.0000	0.6660	0.7842
4	1.0000	0.8422	0.8346	1.0000	0.6047
5	0.6565	0.9512	0.6544	0.8973	1.0000
6	0.9465	0.9496	0.9032	0.7718	0.7963
7	0.9465	0.9496	0.9032	0.7718	0.7963

JAN-1 Biomass

AGE	1982	1983	1984	1985	1986
0	0.	0.	0.	0.	0.
1	13468.	17823.	18541.	11271.	13442.
2	7409.	9398.	10005.	12557.	8154.
3	3357.	3267.	3800.	2010.	4210.
4	1680.	1260.	1708.	1063.	568.
5	458.	583.	255.	679.	386.
6	412.	71.	13.	102.	212.
7	260.	186.	56.	54.	81.
=====					
Total	27044.	32588.	34379.	27736.	27053.
AGE	1987	1988	1989	1990	1991
0	0.	0.	0.	0.	0.
1	13731.	11841.	3733.	6290.	7269.
2	8206.	9573.	5637.	2284.	5129.
3	2389.	2412.	1742.	1421.	1098.
4	1141.	1095.	547.	358.	558.
5	127.	314.	146.	67.	73.
6	120.	82.	28.	33.	11.
7	248.	102.	14.	20.	6.
=====					
Total	25963.	25418.	11846.	10473.	14145.
AGE	1992	1993	1994	1995	1996
0	0.	0.	0.	0.	0.
1	5789.	8553.	9553.	11784.	13710.
2	4285.	4683.	5667.	6986.	9327.
3	1251.	1111.	1690.	1801.	2638.
4	334.	176.	639.	818.	905.
5	268.	127.	77.	274.	179.
6	6.	102.	62.	22.	71.
7	6.	14.	33.	7.	15.
=====					
Total	11940.	14765.	17721.	21691.	26844.
AGE	1997	1998	1999	2000	2001
0	0.	0.	0.	0.	0.
1	8782.	7587.	7827.	6277.	5050.
2	10813.	8835.	9311.	9476.	11029.
3	3895.	6160.	5833.	6317.	6701.
4	1082.	1859.	2399.	2934.	3266.
5	391.	476.	896.	1310.	1420.
6	43.	74.	263.	307.	649.
7	20.	6.	92.	149.	241.
=====					
Total	25027.	24997.	26622.	26769.	28356.

JAN-1 Biomass

AGE	2002	2003	2004	2005	2006
0	0.	0.	0.	0.	0.
1	5896.	7797.	5920.	12609.	4119.
2	12160.	11827.	13439.	9878.	14478.
3	8738.	9487.	9768.	10670.	8298.
4	3878.	5951.	6279.	5503.	7492.
5	2014.	2681.	4270.	3766.	3118.
6	871.	1586.	1762.	2627.	2224.
7	252.	961.	1529.	4838.	2092.
=====					
Total	33808.	40291.	42967.	49892.	41822.

AGE	2007
0	0.
1	7956.
2	6019.
3	14449.
4	5999.
5	6021.
6	2044.
7	3487.
=====	
Total	45974.

Mean Biomass

AGE	1982	1983	1984	1985	1986
0	16087.	16581.	10100.	12194.	11753.
1	11631.	14235.	15984.	10108.	11100.
2	5317.	6712.	5157.	7706.	4866.
3	2118.	2624.	2198.	1248.	2609.
4	1017.	545.	1128.	754.	311.
5	206.	124.	188.	425.	215.
6	270.	39.	9.	56.	115.
7	174.	106.	28.	26.	37.
=====					
Total	36820.	40967.	34792.	32517.	31005.
AGE	1987	1988	1989	1990	1991
0	9955.	3553.	4940.	6569.	3633.
1	12427.	9016.	2893.	6200.	5664.
2	4762.	4700.	3219.	1761.	2898.
3	1775.	1425.	963.	975.	699.
4	717.	520.	236.	186.	412.
5	110.	129.	76.	34.	33.
6	86.	41.	11.	22.	7.
7	137.	44.	6.	10.	3.
=====					
Total	29970.	19428.	12344.	15756.	13350.
AGE	1992	1993	1994	1995	1996
0	6894.	7651.	10904.	13390.	8335.
1	6592.	8002.	9362.	11560.	12427.
2	2523.	2905.	3293.	4375.	5798.
3	627.	954.	1397.	1394.	1946.
4	211.	118.	457.	432.	633.
5	191.	87.	48.	162.	95.
6	3.	63.	50.	14.	41.
7	3.	8.	19.	4.	9.
=====					
Total	17043.	19789.	25530.	31332.	29284.
AGE	1997	1998	1999	2000	2001
0	5528.	7245.	3700.	1948.	3139.
1	8749.	9916.	8092.	10341.	12365.
2	8247.	7418.	7354.	8809.	10417.
3	2842.	3921.	4252.	4770.	5251.
4	667.	1366.	1899.	2114.	2703.
5	210.	423.	591.	1029.	1222.
6	29.	44.	172.	211.	466.
7	12.	4.	56.	90.	160.
=====					
Total	26283.	30337.	26116.	29312.	35722.

Mean Biomass

AGE	2002	2003	2004	2005	2006
0	4669.	3539.	11806.	3105.	4207.
1	10839.	12733.	9731.	13127.	5297.
2	10783.	11398.	12577.	9061.	14823.
3	6934.	8032.	7603.	8904.	7236.
4	3247.	5572.	5160.	4133.	6769.
5	1855.	2380.	3449.	2776.	2578.
6	692.	1314.	1327.	1972.	1979.
7	180.	695.	1081.	3497.	1545.
=====					
Total	39199.	45663.	52735.	46576.	44433.

Spawning Stock Biomass

AGE	1982	1983	1984	1985	1986
0	6595.	6845.	4163.	4979.	5008.
1	9178.	10188.	12372.	7959.	8221.
2	3723.	4428.	2583.	4951.	2891.
3	1488.	1954.	1319.	716.	1454.
4	698.	319.	794.	473.	165.
5	98.	23.	123.	261.	143.
6	193.	33.	7.	40.	56.
7	127.	65.	15.	14.	17.
=====					
Total	22100.	23855.	21374.	19392.	17955.
AGE	1987	1988	1989	1990	1991
0	4283.	1402.	2237.	2691.	1957.
1	9483.	5926.	2250.	4978.	4272.
2	2894.	2271.	1771.	1245.	1567.
3	1271.	723.	476.	662.	418.
4	401.	209.	96.	96.	306.
5	90.	43.	43.	16.	10.
6	56.	14.	8.	12.	6.
7	83.	19.	2.	6.	2.
=====					
Total	18560.	10609.	6882.	9706.	8537.
AGE	1992	1993	1994	1995	1996
0	3065.	3415.	4390.	5188.	3294.
1	4749.	5758.	6981.	9106.	10312.
2	1383.	1954.	2118.	3019.	4325.
3	252.	725.	965.	1035.	1297.
4	149.	88.	321.	232.	454.
5	124.	69.	27.	91.	54.
6	1.	51.	36.	8.	28.
7	1.	6.	13.	2.	6.
=====					
Total	9724.	12067.	14851.	18682.	19770.
AGE	1997	1998	1999	2000	2001
0	2647.	2909.	2090.	1561.	1916.
1	8047.	8659.	8274.	9880.	11147.
2	6626.	6178.	6516.	7175.	9077.
3	2122.	2790.	3298.	3677.	4272.
4	531.	1022.	1472.	1610.	2214.
5	101.	305.	373.	748.	970.
6	25.	33.	118.	165.	436.
7	8.	2.	38.	59.	115.
=====					
Total	20106.	21899.	22179.	24875.	30147.

Spawning Stock Biomass

AGE	2002	2003	2004	2005	2006
0	2598.	1991.	3819.	1450.	2471.
1	10522.	12056.	9105.	12854.	5302.
2	9709.	10067.	11018.	8384.	14339.
3	6276.	6793.	6099.	7930.	6378.
4	2858.	4652.	4162.	3414.	6267.
5	1671.	1940.	2868.	2392.	2205.
6	706.	1270.	1385.	2577.	2316.
7	139.	543.	828.	2732.	1229.
=====					
Total	34479.	39311.	39284.	41733.	40508.



Catch Biomass

AGE	1982	1983	1984	1985	1986
0	1357.	1182.	1191.	601.	491.
1	8119.	11860.	10526.	6259.	7764.
2	6252.	7812.	9767.	11021.	7385.
3	1353.	2345.	3326.	1960.	4387.
4	625.	871.	1244.	856.	550.
5	324.	483.	205.	579.	279.
6	179.	41.	13.	80.	192.
7	116.	112.	39.	38.	61.
=====					
Total	18325.	24706.	26312.	21393.	21110.
AGE	1987	1988	1989	1990	1991
0	294.	251.	200.	468.	145.
1	7608.	9518.	2203.	3796.	4945.
2	7056.	9087.	5282.	1771.	5018.
3	1879.	2415.	1766.	1163.	880.
4	1056.	1120.	522.	340.	393.
5	72.	301.	124.	64.	81.
6	97.	74.	22.	28.	9.
7	155.	79.	11.	13.	4.
=====					
Total	18215.	22844.	10130.	7643.	11474.
AGE	1992	1993	1994	1995	1996
0	335.	339.	581.	231.	53.
1	5263.	5460.	5471.	3130.	3532.
2	4513.	3915.	4393.	4951.	5288.
3	1375.	827.	1329.	1308.	1928.
4	210.	121.	430.	651.	644.
5	189.	84.	71.	202.	139.
6	5.	56.	48.	15.	41.
7	4.	7.	19.	4.	9.
=====					
Total	11894.	10810.	12342.	10492.	11634.
AGE	1997	1998	1999	2000	2001
0	6.	12.	26.	1.	1.
1	1150.	1094.	811.	781.	1571.
2	5141.	4134.	3718.	5513.	3646.
3	2727.	4504.	3600.	4320.	3617.
4	682.	1295.	1671.	2034.	1874.
5	360.	333.	715.	821.	779.
6	28.	49.	149.	192.	319.
7	12.	4.	49.	82.	110.
=====					
Total	10107.	11424.	10739.	13745.	11917.

Catch Biomass

AGE	2002	2003	2004	2005	2006
0	40.	39.	33.	49.	28.
1	560.	803.	544.	831.	475.
2	3982.	3747.	4189.	2572.	3463.
3	3678.	4138.	4538.	3754.	3145.
4	1785.	2417.	2571.	2616.	2268.
5	670.	1167.	1347.	1577.	1429.
6	360.	643.	716.	963.	812.
7	94.	340.	583.	1708.	682.
=====					
Total	11168.	13293.	14520.	14071.	12302.

Catch Numbers

AGE	1982	1983	1984	1985	1986
0	5344.0	4925.0	4802.0	2078.0	1942.0
1	19423.0	28441.0	26582.0	14623.0	17140.0
2	10149.0	10911.0	15454.0	17979.0	11055.0
3	935.0	2181.0	3180.0	1767.0	3782.0
4	328.0	693.0	829.0	496.0	316.0
5	116.0	323.0	95.0	252.0	140.0
6	67.0	16.0	4.0	30.0	58.0
7	30.0	43.0	10.0	8.0	15.0
=====					
Total	36392.0	47533.0	50956.0	37233.0	34448.0
AGE	1987	1988	1989	1990	1991
0	1137.0	795.0	960.0	1856.0	1001.0
1	17212.0	20557.0	4790.0	8808.0	12149.0
2	10838.0	14562.0	7306.0	2187.0	7148.0
3	1648.0	2137.0	1692.0	995.0	742.0
4	544.0	644.0	353.0	221.0	217.0
5	25.0	121.0	55.0	30.0	32.0
6	29.0	19.0	9.0	8.0	3.0
7	44.0	21.0	4.0	3.0	1.0
=====					
Total	31477.0	38856.0	15169.0	14108.0	21293.0
AGE	1992	1993	1994	1995	1996
0	1368.0	1285.0	1638.0	592.0	162.0
1	11197.0	11235.0	10362.0	5828.0	6925.0
2	6026.0	5601.0	6996.0	7303.0	9278.0
3	1125.0	566.0	982.0	1239.0	1785.0
4	151.0	73.0	205.0	397.0	417.0
5	70.0	45.0	26.0	77.0	71.0
6	2.0	20.0	14.0	4.0	16.0
7	1.0	3.0	5.0	1.0	3.0
=====					
Total	19940.0	18828.0	20228.0	15441.0	18657.0
AGE	1997	1998	1999	2000	2001
0	30.0	45.0	181.0	22.0	11.0
1	2545.0	2233.0	2185.0	1538.0	2888.0
2	8046.0	6380.0	6260.0	7967.0	4760.0
3	3149.0	5243.0	4018.0	4670.0	3737.0
4	553.0	980.0	1161.0	1529.0	1293.0
5	160.0	138.0	358.0	370.0	363.0
6	11.0	19.0	55.0	74.0	123.0
7	4.0	1.0	14.0	29.0	33.0
=====					
Total	14498.0	15039.0	14232.0	16199.0	13208.0

Catch Numbers

AGE	2002	2003	2004	2005	2006
0	272.0	259.0	107.0	245.0	191.0
1	1135.0	1583.0	1053.0	1936.0	1072.0
2	5411.0	4937.0	5668.0	3717.0	5070.0
3	3839.0	4002.0	4688.0	4045.0	3276.0
4	1302.0	1579.0	1907.0	2206.0	1796.0
5	319.0	563.0	769.0	1049.0	869.0
6	135.0	233.0	304.0	510.0	372.0
7	25.0	86.0	156.0	470.0	180.0
=====					
Total	12438.0	13242.0	14652.0	14178.0	12826.0

Surplus Production

Average Adjustment Factor (Delta) = 1.0000

Year	Biomass	Delta Biomass	Catch Biomass	Surplus Production
1982	27044.244	5544.020	18325.256	23869.276
1983	32588.264	1790.651	24705.643	26496.294
1984	34378.915	-6642.992	26311.969	19668.977
1985	27735.923	-683.298	21392.794	20709.496
1986	27052.624	-1089.676	21109.693	20020.017
1987	25962.949	-545.437	18215.288	17669.851
1988	25417.512	-13571.657	22844.063	9272.406
1989	11845.855	-1372.765	10129.975	8757.210
1990	10473.090	3671.898	7642.899	11314.797
1991	14144.988	-2205.229	11473.644	9268.415
1992	11939.759	2825.649	11893.667	14719.316
1993	14765.408	2955.978	10809.985	13765.963
1994	17721.386	3969.841	12342.219	16312.060
1995	21691.227	5152.681	10492.420	15645.101
1996	26843.909	-1817.382	11634.385	9817.003
1997	25026.527	-29.288	10107.389	10078.101
1998	24997.239	1624.348	11423.908	13048.256
1999	26621.587	146.933	10739.415	10886.348
2000	26768.520	1587.579	13744.550	15332.129
2001	28356.098	5451.901	11917.151	17369.052
2002	33807.999	6482.626	11167.880	17650.506
2003	40290.625	2676.324	13293.127	15969.451
2004	42966.949	6924.880	14520.135	21445.015
2005	49891.829	-8069.711	14070.761	6001.050
2006	41822.118	4151.659	12302.217	16453.876
2007	45973.776			

Summary of Survey Indices Used in the Estimate

INDEX	Survey Tag	Age	Time	Type	Catchability	Std. Error	CV
1	NEC_W	1	JAN-1	NUMBER	0.1420E-03	0.2696E-04	0.1899E+00
2	NEC_W	2	JAN-1	NUMBER	0.4165E-03	0.4567E-04	0.1097E+00
3	NEC_W	3	JAN-1	NUMBER	0.3412E-03	0.4563E-04	0.1337E+00
4	NEC_W	4	JAN-1	NUMBER	0.3376E-03	0.6751E-04	0.2000E+00
5	NEC_W	5 - 7	JAN-1	NUMBER	0.4480E-03	0.7427E-04	
0.1658E+00							
6	NEC_S	1	JAN-1	NUMBER	0.1382E-04	0.1966E-05	0.1423E+00
7	NEC_S	2	JAN-1	NUMBER	0.3792E-04	0.3796E-05	0.1001E+00
8	NEC_S	3	JAN-1	NUMBER	0.3442E-04	0.5555E-05	0.1614E+00
9	NEC_S	4	JAN-1	NUMBER	0.3840E-04	0.4764E-05	0.1241E+00
10	NEC_S	5 - 7	JAN-1	NUMBER	0.6527E-04	0.8139E-05	
0.1247E+00							
11	NEC_F	2	JAN-1	NUMBER	0.6761E-04	0.4435E-05	0.6560E-01
12	NEC_F	3	JAN-1	NUMBER	0.8110E-04	0.1039E-04	0.1281E+00
13	NEC_F	4	JAN-1	NUMBER	0.7563E-04	0.1069E-04	0.1413E+00
15	MA_S	2	JAN-1	NUMBER	0.4066E-04	0.7665E-05	0.1885E+00
16	MA_S	3	JAN-1	NUMBER	0.4324E-04	0.7101E-05	0.1642E+00
18	MA_F	3	JAN-1	NUMBER	0.1682E-03	0.1785E-04	0.1061E+00
19	MA_F	4	JAN-1	NUMBER	0.6573E-04	0.1295E-04	0.1970E+00
21	CT_S	2	JAN-1	NUMBER	0.1735E-04	0.2786E-05	0.1606E+00
22	CT_S	3	JAN-1	NUMBER	0.1847E-04	0.2841E-05	0.1539E+00
23	CT_S	4	JAN-1	NUMBER	0.2959E-04	0.5606E-05	0.1894E+00
24	CT_F	2	JAN-1	NUMBER	0.4258E-04	0.6790E-05	0.1595E+00
25	CT_F	3	JAN-1	NUMBER	0.1078E-03	0.1382E-04	0.1282E+00
26	CT_F	4	JAN-1	NUMBER	0.8821E-04	0.1220E-04	0.1383E+00
27	CT_F	5 - 7	JAN-1	NUMBER	0.6061E-04	0.1057E-04	
0.1743E+00							
29	RI_F	3	JAN-1	NUMBER	0.1115E-03	0.1700E-04	0.1525E+00
30	RI_F	4	JAN-1	NUMBER	0.8545E-04	0.1805E-04	0.2112E+00
31	RI_X	1	JAN-1	NUMBER	0.1045E-04	0.2173E-05	0.2080E+00
32	RI_X	2 - 7	JAN-1	NUMBER	0.2095E-04	0.3534E-05	
0.1687E+00							
33	NJ	1	JAN-1	NUMBER	0.1582E-03	0.2363E-04	0.1493E+00
34	NJ	2	JAN-1	NUMBER	0.6880E-04	0.1540E-04	0.2238E+00
35	NJ	3	JAN-1	NUMBER	0.4369E-04	0.8036E-05	0.1839E+00
36	NJ	4 - 7	JAN-1	NUMBER	0.5884E-04	0.1018E-04	
0.1730E+00							
40	CT_Y	0	JAN-1	NUMBER	0.1846E-05	0.3986E-06	0.2160E+00
41	VA_CRY	0	JAN-1	NUMBER	0.2820E-04	0.3220E-05	0.1142E+00
43	MD_Y	0	JAN-1	NUMBER	0.2388E-03	0.3044E-04	0.1275E+00
44	NJ_Y	0	JAN-1	NUMBER	0.3928E-04	0.5839E-05	0.1487E+00
45	NEC_Y	0	JAN-1	NUMBER	0.8183E-05	0.1233E-05	0.1507E+00
50	DE_IY	0	JAN-1	NUMBER	0.5487E-05	0.1072E-05	0.1954E+00
51	RI_XY	0	JAN-1	NUMBER	0.1057E-05	0.2145E-06	0.2028E+00

Survey Index: 1 Tag: NEC\_W AGE = 1  
 Time = JAN-1 Type = NUMBER  
 Catchability = 0.141956E-03 % Variance Contribution = 2.0475  
 Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	N/A	0.598569E+01	N/A
1983	N/A	0.777287E+01	N/A
1984	N/A	0.853730E+01	N/A
1985	N/A	0.491096E+01	N/A
1986	N/A	0.527415E+01	N/A
1987	N/A	0.582907E+01	N/A
1988	N/A	0.485400E+01	N/A
1989	N/A	0.138973E+01	N/A
1990	N/A	0.298243E+01	N/A
1991	N/A	0.322155E+01	N/A
1992	0.715000E+01	0.314747E+01	0.820512E+00
1993	0.650000E+01	0.351828E+01	0.613829E+00
1994	0.376000E+01	0.363184E+01	0.346795E-01
1995	0.607000E+01	0.383134E+01	0.460143E+00
1996	0.221700E+02	0.436362E+01	0.162544E+01
1997	0.386000E+01	0.322818E+01	0.178748E+00
1998	0.168000E+01	0.334148E+01	-0.687619E+00
1999	0.211000E+01	0.358412E+01	-0.529825E+00
2000	0.700000E+00	0.330610E+01	-0.155244E+01
2001	0.307000E+01	0.378308E+01	-0.208860E+00
2002	0.277000E+01	0.353003E+01	-0.242458E+00
2003	0.817000E+01	0.405456E+01	0.700627E+00
2004	0.145000E+01	0.302842E+01	-0.736479E+00
2005	0.296000E+01	0.494054E+01	-0.512284E+00
2006	0.264000E+01	0.195512E+01	0.300327E+00
2007	0.277000E+01	0.360810E+01	-0.264333E+00

Survey Index: 2 Tag: NEC\_W AGE = 2  
 Time = JAN-1 Type = NUMBER  
 Catchability = 0.416467E-03 % Variance Contribution = 0.6825  
 Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	N/A	0.661760E+01	N/A
1983	N/A	0.715387E+01	N/A
1984	N/A	0.811568E+01	N/A
1985	N/A	0.106140E+02	N/A
1986	N/A	0.635063E+01	N/A
1987	N/A	0.629400E+01	N/A
1988	N/A	0.759106E+01	N/A
1989	N/A	0.405717E+01	N/A
1990	N/A	0.155847E+01	N/A
1991	N/A	0.388338E+01	N/A
1992	0.474000E+01	0.323239E+01	0.382815E+00
1993	0.670000E+01	0.340259E+01	0.677570E+00

1994	0.720000E+01	0.427136E+01	0.522148E+00
1995	0.459000E+01	0.486275E+01	-0.577246E-01
1996	0.833000E+01	0.702008E+01	0.171089E+00
1997	0.480000E+01	0.788832E+01	-0.496768E+00
1998	0.325000E+01	0.679865E+01	-0.738069E+00
1999	0.480000E+01	0.718760E+01	-0.403742E+00
2000	0.652000E+01	0.778831E+01	-0.177749E+00
2001	0.533000E+01	0.736328E+01	-0.323154E+00
2002	0.107400E+02	0.800265E+01	0.294202E+00
2003	0.143600E+02	0.805239E+01	0.578477E+00
2004	0.868000E+01	0.914402E+01	-0.520787E-01
2005	0.403000E+01	0.687841E+01	-0.534621E+00
2006	0.906000E+01	0.111395E+02	-0.206624E+00
2007	0.618000E+01	0.429345E+01	0.364228E+00

Survey Index: 3 Tag: NEC\_W AGE = 3  
Time = JAN-1 Type = NUMBER  
Catchability = 0.341157E-03 % Variance Contribution = 1.0150  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
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1982	N/A	0.737683E+00	N/A
1983	N/A	0.136957E+01	N/A
1984	N/A	0.149823E+01	N/A
1985	N/A	0.819107E+00	N/A
1986	N/A	0.170322E+01	N/A
1987	N/A	0.933731E+00	N/A
1988	N/A	0.959302E+00	N/A
1989	N/A	0.736510E+00	N/A
1990	N/A	0.527252E+00	N/A
1991	N/A	0.382213E+00	N/A
1992	0.330000E+00	0.460926E+00	-0.334145E+00
1993	0.310000E+00	0.362255E+00	-0.155775E+00
1994	0.820000E+00	0.592924E+00	0.324238E+00
1995	0.250000E+00	0.754462E+00	-0.110454E+01
1996	0.600000E+00	0.105167E+01	-0.561201E+00
1997	0.104000E+01	0.189128E+01	-0.598034E+00
1998	0.229000E+01	0.283631E+01	-0.213951E+00
1999	0.290000E+01	0.261156E+01	0.104763E+00
2000	0.496000E+01	0.290745E+01	0.534129E+00
2001	0.642000E+01	0.279342E+01	0.832150E+00
2002	0.558000E+01	0.347996E+01	0.472167E+00
2003	0.848000E+01	0.370984E+01	0.826721E+00
2004	0.456000E+01	0.388738E+01	0.159588E+00
2005	0.307000E+01	0.439558E+01	-0.358922E+00
2006	0.429000E+01	0.347310E+01	0.211240E+00
2007	0.515000E+01	0.591459E+01	-0.138425E+00

Survey Index: 4 Tag: NEC\_W AGE = 4  
Time = JAN-1 Type = NUMBER  
Catchability = 0.337567E-03 % Variance Contribution = 2.2698  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	N/A	0.263309E+00	N/A
1983	N/A	0.315483E+00	N/A
1984	N/A	0.454103E+00	N/A
1985	N/A	0.267158E+00	N/A
1986	N/A	0.138030E+00	N/A
1987	N/A	0.256767E+00	N/A
1988	N/A	0.262477E+00	N/A
1989	N/A	0.142701E+00	N/A
1990	N/A	0.953159E-01	N/A
1991	N/A	0.129526E+00	N/A
1992	0.400000E-01	0.879242E-01	-0.787596E+00
1993	0.500000E-01	0.416751E-01	0.182118E+00
1994	0.260000E+00	0.123309E+00	0.745987E+00
1995	0.200000E-01	0.185508E+00	-0.222737E+01
1996	0.120000E+00	0.239137E+00	-0.689543E+00
1997	0.430000E+00	0.316386E+00	0.306821E+00
1998	0.420000E+00	0.586846E+00	-0.334508E+00
1999	0.840000E+00	0.728459E+00	0.142470E+00
2000	0.251000E+01	0.907322E+00	0.101754E+01
2001	0.244000E+01	0.952268E+00	0.940907E+00
2002	0.226000E+01	0.113631E+01	0.687579E+00
2003	0.267000E+01	0.165875E+01	0.476015E+00
2004	0.164000E+01	0.179541E+01	-0.905359E-01
2005	0.134000E+01	0.173371E+01	-0.257592E+00
2006	0.247000E+01	0.233605E+01	0.557554E-01
2007	0.154000E+01	0.182181E+01	-0.168048E+00

Survey Index: 5 Tag: NEC\_W AGE = 5 - 7  
Time = JAN-1 Type = NUMBER  
Catchability = 0.447993E-03 % Variance Contribution = 1.3646  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	N/A	0.168212E+00	N/A
1983	N/A	0.198627E+00	N/A
1984	N/A	0.783709E-01	N/A
1985	N/A	0.187970E+00	N/A
1986	N/A	0.136512E+00	N/A
1987	N/A	0.780604E-01	N/A
1988	N/A	0.870151E-01	N/A
1989	N/A	0.404212E-01	N/A
1990	N/A	0.243346E-01	N/A
1991	N/A	0.194429E-01	N/A
1992	0.400000E-01	0.560117E-01	-0.336682E+00
1993	0.400000E-01	0.544552E-01	-0.308499E+00
1994	0.100000E-01	0.312442E-01	-0.113925E+01
1995	N/A	0.560531E-01	N/A
1996	0.300000E-01	0.592879E-01	-0.681208E+00
1997	0.150000E+00	0.105502E+00	0.351905E+00
1998	0.120000E+00	0.138226E+00	-0.141402E+00
1999	0.410000E+00	0.305012E+00	0.295807E+00



2000	0.108000E+01	0.412287E+00	0.962997E+00
2001	0.134000E+01	0.530297E+00	0.926987E+00
2002	0.133000E+01	0.710651E+00	0.626753E+00
2003	0.196000E+01	0.111677E+01	0.562500E+00
2004	0.144000E+01	0.170866E+01	-0.171066E+00
2005	0.149000E+01	0.242867E+01	-0.488567E+00
2006	0.258000E+01	0.179781E+01	0.361219E+00
2007	0.119000E+01	0.270594E+01	-0.821496E+00

Survey Index: 6 Tag: NEC\_S AGE = 1  
Time = JAN-1 Type = NUMBER  
Catchability = 0.138176E-04 % Variance Contribution = 3.1103  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	0.700000E+00	0.582628E+00	0.183531E+00
1983	0.320000E+00	0.756587E+00	-0.860497E+00
1984	0.170000E+00	0.830994E+00	-0.158682E+01
1985	0.550000E+00	0.478018E+00	0.140270E+00
1986	0.148000E+01	0.513370E+00	0.105880E+01
1987	0.470000E+00	0.567384E+00	-0.188303E+00
1988	0.600000E+00	0.472474E+00	0.238948E+00
1989	0.600000E-01	0.135272E+00	-0.812943E+00
1990	0.630000E+00	0.290300E+00	0.774804E+00
1991	0.790000E+00	0.313575E+00	0.923993E+00
1992	0.770000E+00	0.306365E+00	0.921612E+00
1993	0.730000E+00	0.342459E+00	0.756893E+00
1994	0.350000E+00	0.353512E+00	-0.998476E-02
1995	0.790000E+00	0.372931E+00	0.750639E+00
1996	0.108000E+01	0.424742E+00	0.933235E+00
1997	0.290000E+00	0.314221E+00	-0.802170E-01
1998	0.270000E+00	0.325249E+00	-0.186170E+00
1999	0.220000E+00	0.348867E+00	-0.461064E+00
2000	0.190000E+00	0.321806E+00	-0.526923E+00
2001	0.480000E+00	0.368233E+00	0.265070E+00
2002	0.340000E+00	0.343602E+00	-0.105380E-01
2003	0.540000E+00	0.394658E+00	0.313549E+00
2004	0.300000E+00	0.294777E+00	0.175616E-01
2005	0.260000E+00	0.480897E+00	-0.614971E+00
2006	0.400000E-01	0.190305E+00	-0.155975E+01
2007	0.240000E+00	0.351201E+00	-0.380720E+00

Survey Index: 7 Tag: NEC\_S AGE = 2  
Time = JAN-1 Type = NUMBER  
Catchability = 0.379163E-04 % Variance Contribution = 1.5403  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	0.143000E+01	0.602485E+00	0.864367E+00
1983	0.390000E+00	0.651308E+00	-0.512836E+00
1984	0.330000E+00	0.738874E+00	-0.806035E+00

1985	0.156000E+01	0.966324E+00	0.478942E+00
1986	0.430000E+00	0.578179E+00	-0.296098E+00
1987	0.430000E+00	0.573023E+00	-0.287141E+00
1988	0.810000E+00	0.691111E+00	0.158733E+00
1989	0.230000E+00	0.369376E+00	-0.473735E+00
1990	0.300000E-01	0.141888E+00	-0.155384E+01
1991	0.270000E+00	0.353554E+00	-0.269615E+00
1992	0.410000E+00	0.294286E+00	0.331606E+00
1993	0.500000E+00	0.309782E+00	0.478741E+00
1994	0.530000E+00	0.388877E+00	0.309614E+00
1995	0.270000E+00	0.442719E+00	-0.494512E+00
1996	0.560000E+00	0.639127E+00	-0.132167E+00
1997	0.670000E+00	0.718175E+00	-0.694357E-01
1998	0.520000E+00	0.618968E+00	-0.174224E+00
1999	0.740000E+00	0.654379E+00	0.122963E+00
2000	0.103000E+01	0.709069E+00	0.373361E+00
2001	0.890000E+00	0.670373E+00	0.283387E+00
2002	0.890000E+00	0.728584E+00	0.200119E+00
2003	0.129000E+01	0.733112E+00	0.565099E+00
2004	0.145000E+01	0.832497E+00	0.554889E+00
2005	0.650000E+00	0.626230E+00	0.372553E-01
2006	0.104000E+01	0.101417E+01	0.251533E-01
2007	0.520000E+00	0.390888E+00	0.285409E+00

Survey Index: 8 Tag: NEC\_S AGE = 3  
Time = JAN-1 Type = NUMBER  
Catchability = 0.344239E-04 % Variance Contribution = 3.6939  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	0.120000E+00	0.744349E-01	0.477567E+00
1983	0.190000E+00	0.138195E+00	0.318360E+00
1984	0.900000E-01	0.151176E+00	-0.518638E+00
1985	0.210000E+00	0.826507E-01	0.932484E+00
1986	0.200000E+00	0.171860E+00	0.151635E+00
1987	0.200000E-01	0.942168E-01	-0.154987E+01
1988	0.700000E-01	0.967969E-01	-0.324120E+00
1989	0.200000E-01	0.743165E-01	-0.131260E+01
1990	0.600000E-01	0.532016E-01	0.120257E+00
1991	N/A	0.385666E-01	N/A
1992	0.100000E-01	0.465091E-01	-0.153706E+01
1993	0.400000E-01	0.365528E-01	0.901224E-01
1994	0.400000E-01	0.598281E-01	-0.402597E+00
1995	0.200000E-01	0.761279E-01	-0.133668E+01
1996	0.120000E+00	0.106117E+00	0.122951E+00
1997	0.900000E-01	0.190837E+00	-0.751609E+00
1998	0.320000E+00	0.286193E+00	0.111653E+00
1999	0.480000E+00	0.263515E+00	0.599674E+00
2000	0.630000E+00	0.293372E+00	0.764278E+00
2001	0.102000E+01	0.281866E+00	0.128613E+01
2002	0.740000E+00	0.351140E+00	0.745464E+00
2003	0.590000E+00	0.374336E+00	0.454968E+00
2004	0.850000E+00	0.392250E+00	0.773337E+00
2005	0.580000E+00	0.443529E+00	0.268264E+00

2006 0.240000E+00 0.350448E+00 -0.378572E+00  
 2007 0.146000E+01 0.596803E+00 0.894605E+00

Survey Index: 9 Tag: NEC\_S AGE = 4  
 Time = JAN-1 Type = NUMBER  
 Catchability = 0.383975E-04 % Variance Contribution = 1.5288  
 Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	0.200000E-01	0.299508E-01	-0.403824E+00
1983	0.300000E-01	0.358854E-01	-0.179133E+00
1984	0.500000E-01	0.516531E-01	-0.325277E-01
1985	0.400000E-01	0.303886E-01	0.274811E+00
1986	0.200000E-01	0.157005E-01	0.242037E+00
1987	0.100000E-01	0.292066E-01	-0.107181E+01
1988	0.200000E-01	0.298561E-01	-0.400658E+00
1989	0.100000E-01	0.162319E-01	-0.484396E+00
1990	N/A	0.108420E-01	N/A
1991	0.200000E-01	0.147333E-01	0.305621E+00
1992	N/A	0.100012E-01	N/A
1993	N/A	0.474045E-02	N/A
1994	0.100000E-01	0.140261E-01	-0.338337E+00
1995	N/A	0.211011E-01	N/A
1996	N/A	0.272012E-01	N/A
1997	0.100000E-01	0.359882E-01	-0.128061E+01
1998	0.600000E-01	0.667524E-01	-0.106645E+00
1999	0.130000E+00	0.828605E-01	0.450376E+00
2000	0.120000E+00	0.103206E+00	0.150767E+00
2001	0.200000E+00	0.108318E+00	0.613244E+00
2002	0.310000E+00	0.129253E+00	0.874804E+00
2003	0.290000E+00	0.188679E+00	0.429836E+00
2004	0.270000E+00	0.204223E+00	0.279208E+00
2005	0.150000E+00	0.197205E+00	-0.273608E+00
2006	0.250000E+00	0.265720E+00	-0.609837E-01
2007	0.570000E+00	0.207227E+00	0.101182E+01

Survey Index: 10 Tag: NEC\_S AGE = 5 - 7  
 Time = JAN-1 Type = NUMBER  
 Catchability = 0.652723E-04 % Variance Contribution = 0.8825  
 Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	N/A	0.245084E-01	N/A
1983	0.200000E-01	0.289398E-01	-0.369487E+00
1984	0.200000E-01	0.114186E-01	0.560489E+00
1985	0.200000E-01	0.273872E-01	-0.314342E+00
1986	0.100000E-01	0.198897E-01	-0.687616E+00
1987	N/A	0.113734E-01	N/A
1988	N/A	0.126780E-01	N/A
1989	N/A	0.588935E-02	N/A
1990	N/A	0.354554E-02	N/A

1991	N/A	0.283282E-02	N/A
1992	0.100000E-01	0.816088E-02	0.203233E+00
1993	N/A	0.793409E-02	N/A
1994	N/A	0.455226E-02	N/A
1995	0.100000E-01	0.816690E-02	0.202496E+00
1996	N/A	0.863821E-02	N/A
1997	N/A	0.153716E-01	N/A
1998	0.200000E-01	0.201395E-01	-0.695188E-02
1999	0.300000E-01	0.444400E-01	-0.392943E+00
2000	0.170000E+00	0.600700E-01	0.104029E+01
2001	0.100000E+00	0.772640E-01	0.257942E+00
2002	0.190000E+00	0.103541E+00	0.607052E+00
2003	0.210000E+00	0.162713E+00	0.255117E+00
2004	0.150000E+00	0.248951E+00	-0.506620E+00
2005	0.170000E+00	0.353856E+00	-0.733091E+00
2006	0.200000E+00	0.261940E+00	-0.269798E+00
2007	0.460000E+00	0.394254E+00	0.154231E+00

Survey Index: 11 Tag: NEC\_F AGE = 2  
Time = JAN-1 Type = NUMBER  
Catchability = 0.676126E-04 % Variance Contribution = 0.6105  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
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1982	N/A	0.107435E+01	N/A
1983	0.152000E+01	0.116142E+01	0.269071E+00
1984	0.146000E+01	0.131756E+01	0.102652E+00
1985	0.139000E+01	0.172315E+01	-0.214852E+00
1986	0.800000E+00	0.103101E+01	-0.253684E+00
1987	0.830000E+00	0.102182E+01	-0.207913E+00
1988	0.580000E+00	0.123239E+01	-0.753685E+00
1989	0.620000E+00	0.658673E+00	-0.605070E-01
1990	0.210000E+00	0.253015E+00	-0.186340E+00
1991	0.380000E+00	0.630459E+00	-0.506278E+00
1992	0.840000E+00	0.524772E+00	0.470438E+00
1993	0.104000E+01	0.552404E+00	0.632696E+00
1994	0.800000E+00	0.693447E+00	0.142937E+00
1995	0.670000E+00	0.789458E+00	-0.164069E+00
1996	0.116000E+01	0.113969E+01	0.176594E-01
1997	0.124000E+01	0.128065E+01	-0.322590E-01
1998	0.129000E+01	0.110375E+01	0.155932E+00
1999	0.213000E+01	0.116689E+01	0.601778E+00
2000	0.173000E+01	0.126442E+01	0.313511E+00
2001	0.120000E+01	0.119541E+01	0.383002E-02
2002	0.136000E+01	0.129921E+01	0.457252E-01
2003	0.117000E+01	0.130729E+01	-0.110952E+00
2004	0.131000E+01	0.148451E+01	-0.125060E+00
2005	0.149000E+01	0.111670E+01	0.288402E+00
2006	0.114000E+01	0.180847E+01	-0.461451E+00
2007	0.720000E+00	0.697033E+00	0.324187E-01

Survey Index: 12 Tag: NEC\_F AGE = 3  
Time = JAN-1 Type = NUMBER  
Catchability = 0.811036E-04 % Variance Contribution = 2.3297

Residual = LN(Observed) - LN(Predicted)

Year            Observed            Predicted            Residual

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1982	N/A	0.175370E+00	N/A
1983	0.400000E+00	0.325590E+00	0.205825E+00
1984	0.340000E+00	0.356175E+00	-0.464772E-01
1985	0.430000E+00	0.194727E+00	0.792186E+00
1986	0.460000E+00	0.404907E+00	0.127569E+00
1987	0.110000E+00	0.221977E+00	-0.702093E+00
1988	0.200000E+00	0.228056E+00	-0.131273E+00
1989	0.180000E+00	0.175091E+00	0.276487E-01
1990	0.500000E-01	0.125344E+00	-0.919040E+00
1991	0.300000E-01	0.908638E-01	-0.110816E+01
1992	0.900000E-01	0.109576E+00	-0.196813E+00
1993	0.250000E+00	0.861192E-01	0.106573E+01
1994	0.300000E-01	0.140956E+00	-0.154725E+01
1995	0.900000E-01	0.179359E+00	-0.689580E+00
1996	0.280000E+00	0.250014E+00	0.113274E+00
1997	0.570000E+00	0.449616E+00	0.237242E+00
1998	0.114000E+01	0.674278E+00	0.525141E+00
1999	0.163000E+01	0.620849E+00	0.965248E+00
2000	0.149000E+01	0.691191E+00	0.768115E+00
2001	0.122000E+01	0.664083E+00	0.608199E+00
2002	0.930000E+00	0.827295E+00	0.117023E+00
2003	0.860000E+00	0.881945E+00	-0.251973E-01
2004	0.103000E+01	0.924150E+00	0.108440E+00
2005	0.137000E+01	0.104497E+01	0.270827E+00
2006	0.540000E+00	0.825663E+00	-0.424617E+00
2007	0.122000E+01	0.140608E+01	-0.141956E+00

Survey Index:    13 Tag:                    NEC\_F    AGE = 4  
Time = JAN-1                            Type = NUMBER  
Catchability =    0.756270E-04    % Variance Contribution =    2.3884  
Residual = LN(Observed) - LN(Predicted)

Year            Observed            Predicted            Residual

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1982	N/A	0.589906E-01	N/A
1983	0.300000E-01	0.706794E-01	-0.856956E+00
1984	0.120000E+00	0.101735E+00	0.165118E+00
1985	0.700000E-01	0.598530E-01	0.156604E+00
1986	0.500000E-01	0.309235E-01	0.480505E+00
1987	0.110000E+00	0.575249E-01	0.648263E+00
1988	0.300000E-01	0.588042E-01	-0.673016E+00
1989	0.300000E-01	0.319702E-01	-0.636069E-01
1990	N/A	0.213541E-01	N/A
1991	0.400000E-01	0.290185E-01	0.320945E+00
1992	N/A	0.196981E-01	N/A
1993	0.300000E-01	0.933671E-02	0.116724E+01
1994	0.100000E-01	0.276256E-01	-0.101616E+01
1995	0.100000E-01	0.415605E-01	-0.142456E+01
1996	0.200000E-01	0.535751E-01	-0.985352E+00
1997	0.400000E-01	0.708818E-01	-0.572134E+00

1998	0.290000E+00	0.131474E+00	0.791068E+00
1999	0.330000E+00	0.163201E+00	0.704111E+00
2000	0.310000E+00	0.203272E+00	0.422025E+00
2001	0.400000E+00	0.213342E+00	0.628569E+00
2002	0.370000E+00	0.254574E+00	0.373912E+00
2003	0.350000E+00	0.371619E+00	-0.599349E-01
2004	0.250000E+00	0.402235E+00	-0.475576E+00
2005	0.660000E+00	0.388412E+00	0.530174E+00
2006	0.470000E+00	0.523359E+00	-0.107535E+00
2007	0.350000E+00	0.408150E+00	-0.153702E+00

Survey Index: 15 Tag: MA\_S AGE = 2  
Time = JAN-1 Type = NUMBER  
Catchability = 0.406577E-04 % Variance Contribution = 5.0423  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	0.158400E+01	0.646045E+00	0.896840E+00
1983	0.599000E+00	0.698398E+00	-0.153527E+00
1984	0.780000E-01	0.792295E+00	-0.231822E+01
1985	0.126000E+01	0.103619E+01	0.195562E+00
1986	0.522000E+00	0.619981E+00	-0.172022E+00
1987	0.640000E+00	0.614453E+00	0.407355E-01
1988	0.100500E+01	0.741079E+00	0.304636E+00
1989	0.363000E+00	0.396082E+00	-0.872174E-01
1990	0.210000E-01	0.152146E+00	-0.198032E+01
1991	0.500000E-01	0.379116E+00	-0.202582E+01
1992	0.342000E+00	0.315563E+00	0.804533E-01
1993	0.492000E+00	0.332179E+00	0.392805E+00
1994	0.121700E+01	0.416993E+00	0.107108E+01
1995	0.130200E+01	0.474727E+00	0.100892E+01
1996	0.686000E+00	0.685336E+00	0.967934E-03
1997	0.127900E+01	0.770099E+00	0.507314E+00
1998	0.121200E+01	0.663719E+00	0.602168E+00
1999	0.878000E+00	0.701691E+00	0.224153E+00
2000	0.165900E+01	0.760335E+00	0.780211E+00
2001	0.102600E+01	0.718841E+00	0.355782E+00
2002	0.151100E+01	0.781260E+00	0.659618E+00
2003	0.144000E+01	0.786116E+00	0.605294E+00
2004	0.283000E+00	0.892687E+00	-0.114879E+01
2005	0.351000E+00	0.671506E+00	-0.648737E+00
2006	0.244000E+01	0.108749E+01	0.808125E+00
2007	N/A	0.419149E+00	N/A

Survey Index: 16 Tag: MA\_S AGE = 3  
Time = JAN-1 Type = NUMBER  
Catchability = 0.432367E-04 % Variance Contribution = 3.8271  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	0.142000E+00	0.934907E-01	0.417965E+00

1983	0.450000E+00	0.173574E+00	0.952646E+00
1984	0.670000E-01	0.189879E+00	-0.104169E+01
1985	0.360000E-01	0.103810E+00	-0.105904E+01
1986	0.185000E+00	0.215858E+00	-0.154264E+00
1987	0.130000E-01	0.118337E+00	-0.220859E+01
1988	0.123000E+00	0.121578E+00	0.116315E-01
1989	0.102000E+00	0.933420E-01	0.887022E-01
1990	0.810000E-01	0.668215E-01	0.192424E+00
1991	0.120000E-01	0.484399E-01	-0.139542E+01
1992	0.900000E-01	0.584157E-01	0.432225E+00
1993	0.650000E-01	0.459105E-01	0.347693E+00
1994	0.480000E-01	0.751446E-01	-0.448213E+00
1995	0.530000E-01	0.956171E-01	-0.590060E+00
1996	0.114000E+00	0.133283E+00	-0.156280E+00
1997	0.181000E+00	0.239692E+00	-0.280860E+00
1998	0.659000E+00	0.359461E+00	0.606118E+00
1999	0.111200E+01	0.330977E+00	0.121187E+01
2000	0.120500E+01	0.368477E+00	0.118486E+01
2001	0.730000E+00	0.354026E+00	0.723674E+00
2002	0.397000E+00	0.441035E+00	-0.105188E+00
2003	0.624000E+00	0.470169E+00	0.283058E+00
2004	0.323000E+00	0.492669E+00	-0.422184E+00
2005	0.102900E+01	0.557076E+00	0.613641E+00
2006	0.975000E+00	0.440165E+00	0.795289E+00
2007	N/A	0.749589E+00	N/A

Survey Index: 18 Tag: MA\_F AGE = 3  
Time = JAN-1 Type = NUMBER  
Catchability = 0.168215E-03 % Variance Contribution = 1.5980  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	0.405000E+00	0.363731E+00	0.107472E+00
1983	0.166200E+01	0.675298E+00	0.900622E+00
1984	0.625000E+00	0.738734E+00	-0.167187E+00
1985	0.267000E+00	0.403879E+00	-0.413866E+00
1986	0.189500E+01	0.839808E+00	0.813801E+00
1987	0.679000E+00	0.460397E+00	0.388532E+00
1988	0.663000E+00	0.473005E+00	0.337669E+00
1989	0.429000E+00	0.363153E+00	0.166633E+00
1990	0.317000E+00	0.259973E+00	0.198323E+00
1991	N/A	0.188458E+00	N/A
1992	0.288000E+00	0.227270E+00	0.236822E+00
1993	0.186000E+00	0.178618E+00	0.404988E-01
1994	0.478000E+00	0.292354E+00	0.491644E+00
1995	0.760000E-01	0.372004E+00	-0.158817E+01
1996	0.506000E+00	0.518547E+00	-0.244945E-01
1997	0.128200E+01	0.932538E+00	0.318267E+00
1998	0.150800E+01	0.139850E+01	0.753813E-01
1999	0.590000E+00	0.128769E+01	-0.780480E+00
2000	0.940000E+00	0.143358E+01	-0.422052E+00
2001	0.230300E+01	0.137736E+01	0.514045E+00
2002	0.108300E+01	0.171587E+01	-0.460187E+00
2003	0.130200E+01	0.182922E+01	-0.339988E+00

2004	0.125400E+01	0.191676E+01	-0.424296E+00
2005	0.145500E+01	0.216734E+01	-0.398494E+00
2006	0.204900E+01	0.171249E+01	0.179405E+00
2007	0.374500E+01	0.291632E+01	0.250099E+00

Survey Index: 19 Tag: MA\_F AGE = 4  
Time = JAN-1 Type = NUMBER  
Catchability = 0.657295E-04 % Variance Contribution = 4.6457  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
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1982	0.120000E-01	0.512704E-01	-0.145221E+01
1983	0.200000E-01	0.614294E-01	-0.112216E+01
1984	0.154000E+00	0.884208E-01	0.554845E+00
1985	0.127000E+00	0.520198E-01	0.892562E+00
1986	0.400000E-01	0.268765E-01	0.397627E+00
1987	0.214000E+00	0.499964E-01	0.145402E+01
1988	0.110000E-01	0.511083E-01	-0.153605E+01
1989	0.600000E-02	0.277862E-01	-0.153278E+01
1990	0.160000E-01	0.185595E-01	-0.148392E+00
1991	0.110000E-01	0.252208E-01	-0.829773E+00
1992	0.600000E-02	0.171202E-01	-0.104850E+01
1993	N/A	0.811479E-02	N/A
1994	0.300000E-01	0.240102E-01	0.222719E+00
1995	N/A	0.361214E-01	N/A
1996	N/A	0.465636E-01	N/A
1997	0.114000E+00	0.616053E-01	0.615451E+00
1998	0.351000E+00	0.114268E+00	0.112224E+01
1999	0.262000E+00	0.141842E+00	0.613629E+00
2000	0.379000E+00	0.176670E+00	0.763255E+00
2001	0.494000E+00	0.185421E+00	0.979905E+00
2002	0.307000E+00	0.221257E+00	0.327523E+00
2003	0.178000E+00	0.322984E+00	-0.595819E+00
2004	0.256000E+00	0.349594E+00	-0.311594E+00
2005	0.136000E+00	0.337579E+00	-0.909146E+00
2006	0.135000E+01	0.454865E+00	0.108786E+01
2007	0.559000E+00	0.354735E+00	0.454780E+00

Survey Index: 21 Tag: CT\_S AGE = 2  
Time = JAN-1 Type = NUMBER  
Catchability = 0.173459E-04 % Variance Contribution = 3.0870  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
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1982	N/A	0.275624E+00	N/A
1983	N/A	0.297959E+00	N/A
1984	0.271000E+00	0.338019E+00	-0.220982E+00
1985	0.325000E+00	0.442072E+00	-0.307647E+00
1986	0.100000E+00	0.264504E+00	-0.972686E+00
1987	0.860000E-01	0.262146E+00	-0.111455E+01
1988	0.223000E+00	0.316168E+00	-0.349102E+00



1989	0.490000E-01	0.168981E+00	-0.123797E+01
1990	0.220000E-01	0.649105E-01	-0.108197E+01
1991	0.189000E+00	0.161743E+00	0.155737E+00
1992	0.188000E+00	0.134629E+00	0.333917E+00
1993	0.151000E+00	0.141718E+00	0.634391E-01
1994	0.314000E+00	0.177903E+00	0.568157E+00
1995	0.510000E-01	0.202534E+00	-0.137908E+01
1996	0.266000E+00	0.292387E+00	-0.945805E-01
1997	0.507000E+00	0.328549E+00	0.433824E+00
1998	0.594000E+00	0.283164E+00	0.740853E+00
1999	0.593000E+00	0.299364E+00	0.683534E+00
2000	0.726000E+00	0.324384E+00	0.805623E+00
2001	0.340000E+00	0.306681E+00	0.103138E+00
2002	0.126400E+01	0.333311E+00	0.133296E+01
2003	0.101600E+01	0.335383E+00	0.110836E+01
2004	0.818000E+00	0.380849E+00	0.764459E+00
2005	0.264000E+00	0.286486E+00	-0.817412E-01
2006	0.360000E+00	0.463959E+00	-0.253692E+00
2007	N/A	0.178822E+00	N/A

Survey Index: 22 Tag: CT\_S AGE = 3  
Time = JAN-1 Type = NUMBER  
Catchability = 0.184656E-04 % Variance Contribution = 2.8328  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
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1982	N/A	0.399282E-01	N/A
1983	N/A	0.741301E-01	N/A
1984	0.440000E-01	0.810937E-01	-0.611415E+00
1985	0.400000E-01	0.443353E-01	-0.102902E+00
1986	0.820000E-01	0.921889E-01	-0.117121E+00
1987	0.140000E-01	0.505395E-01	-0.128370E+01
1988	0.350000E-01	0.519236E-01	-0.394425E+00
1989	0.240000E-01	0.398647E-01	-0.507436E+00
1990	0.130000E-01	0.285383E-01	-0.786296E+00
1991	0.290000E-01	0.206878E-01	0.337752E+00
1992	0.210000E-01	0.249483E-01	-0.172282E+00
1993	0.150000E-01	0.196075E-01	-0.267864E+00
1994	0.250000E-01	0.320929E-01	-0.249758E+00
1995	0.200000E-01	0.408363E-01	-0.713840E+00
1996	0.860000E-01	0.569229E-01	0.412649E+00
1997	0.570000E-01	0.102368E+00	-0.585525E+00
1998	0.503000E+00	0.153519E+00	0.118677E+01
1999	0.385000E+00	0.141354E+00	0.100197E+01
2000	0.524000E+00	0.157370E+00	0.120289E+01
2001	0.365000E+00	0.151198E+00	0.881308E+00
2002	0.465000E+00	0.188358E+00	0.903694E+00
2003	0.395000E+00	0.200800E+00	0.676574E+00
2004	0.410000E+00	0.210410E+00	0.667101E+00
2005	0.150000E+00	0.237917E+00	-0.461286E+00
2006	0.680000E-01	0.187986E+00	-0.101686E+01
2007	N/A	0.320135E+00	N/A

Survey Index: 23 Tag: CT\_S AGE = 4

Time = JAN-1                      Type = NUMBER  
 Catchability = 0.295921E-04    % Variance Contribution = 3.9209  
 Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	N/A	0.230824E-01	N/A
1983	N/A	0.276561E-01	N/A
1984	N/A	0.398079E-01	N/A
1985	0.580000E-01	0.234198E-01	0.906860E+00
1986	0.800000E-02	0.121001E-01	-0.413769E+00
1987	0.400000E-02	0.225089E-01	-0.172762E+01
1988	0.900000E-02	0.230095E-01	-0.938681E+00
1989	0.160000E-01	0.125096E-01	0.246092E+00
1990	0.600000E-02	0.835565E-02	-0.331179E+00
1991	0.280000E-01	0.113546E-01	0.902578E+00
1992	0.400000E-02	0.770768E-02	-0.655923E+00
1993	0.180000E-01	0.365336E-02	0.159473E+01
1994	0.180000E-01	0.108096E-01	0.509935E+00
1995	0.500000E-02	0.162622E-01	-0.117940E+01
1996	0.230000E-01	0.209634E-01	0.927172E-01
1997	0.360000E-01	0.277353E-01	0.260813E+00
1998	0.116000E+00	0.514446E-01	0.813085E+00
1999	0.139000E+00	0.638588E-01	0.777800E+00
2000	0.740000E-01	0.795384E-01	-0.721746E-01
2001	0.120000E+00	0.834784E-01	0.362903E+00
2002	0.233000E+00	0.996121E-01	0.849755E+00
2003	0.232000E+00	0.145410E+00	0.467177E+00
2004	0.194000E+00	0.157390E+00	0.209129E+00
2005	0.330000E-01	0.151981E+00	-0.152725E+01
2006	0.650000E-01	0.204785E+00	-0.114757E+01
2007	N/A	0.159705E+00	N/A

Survey Index: 24 Tag: CT\_F AGE = 2  
 Time = JAN-1                      Type = NUMBER  
 Catchability = 0.425758E-04    % Variance Contribution = 3.0428  
 Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	N/A	0.676523E+00	N/A
1983	N/A	0.731346E+00	N/A
1984	N/A	0.829673E+00	N/A
1985	0.571000E+00	0.108507E+01	-0.642013E+00
1986	0.339000E+00	0.649230E+00	-0.649787E+00
1987	0.117000E+01	0.643441E+00	0.597929E+00
1988	0.106700E+01	0.776040E+00	0.318402E+00
1989	0.884000E+00	0.414767E+00	0.756739E+00
1990	0.290000E-01	0.159324E+00	-0.170364E+01
1991	0.674000E+00	0.397002E+00	0.529290E+00
1992	0.826000E+00	0.330450E+00	0.916140E+00
1993	0.570000E+00	0.347850E+00	0.493865E+00
1994	0.827000E+00	0.436665E+00	0.638638E+00

1995	0.300000E+00	0.497123E+00	-0.505055E+00
1996	0.384000E+00	0.717668E+00	-0.625365E+00
1997	0.887000E+00	0.806430E+00	0.952279E-01
1998	0.681000E+00	0.695031E+00	-0.203946E-01
1999	0.269000E+00	0.734795E+00	-0.100488E+01
2000	0.679000E+00	0.796205E+00	-0.159236E+00
2001	0.395000E+00	0.752754E+00	-0.644852E+00
2002	0.268900E+01	0.818118E+00	0.118992E+01
2003	0.308700E+01	0.823203E+00	0.132175E+01
2004	0.145900E+01	0.934801E+00	0.445173E+00
2005	0.385000E+00	0.703186E+00	-0.602377E+00
2006	0.109300E+01	0.113880E+01	-0.410449E-01
2007	0.217000E+00	0.438923E+00	-0.704427E+00

Survey Index: 25 Tag: CT\_F AGE = 3  
Time = JAN-1 Type = NUMBER  
Catchability = 0.107830E-03 % Variance Contribution = 1.9665  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
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1982	N/A	0.233161E+00	N/A
1983	N/A	0.432884E+00	N/A
1984	N/A	0.473548E+00	N/A
1985	0.331000E+00	0.258897E+00	0.245689E+00
1986	0.528000E+00	0.538339E+00	-0.193923E-01
1987	0.298000E+00	0.295127E+00	0.968938E-02
1988	0.223000E+00	0.303209E+00	-0.307249E+00
1989	0.481000E+00	0.232790E+00	0.725728E+00
1990	0.950000E-01	0.166650E+00	-0.562017E+00
1991	0.110000E+00	0.120807E+00	-0.937124E-01
1992	0.340000E+00	0.145686E+00	0.847492E+00
1993	0.366000E+00	0.114499E+00	0.116207E+01
1994	0.152000E+00	0.187407E+00	-0.209401E+00
1995	0.850000E-01	0.238464E+00	-0.103157E+01
1996	0.117000E+00	0.332402E+00	-0.104417E+01
1997	0.118800E+01	0.597781E+00	0.686801E+00
1998	0.137300E+01	0.896478E+00	0.426280E+00
1999	0.105400E+01	0.825441E+00	0.244430E+00
2000	0.148400E+01	0.918964E+00	0.479249E+00
2001	0.871000E+00	0.882923E+00	-0.135964E-01
2002	0.113700E+01	0.109992E+01	0.331563E-01
2003	0.193000E+01	0.117258E+01	0.498315E+00
2004	0.131900E+01	0.122869E+01	0.709243E-01
2005	0.755000E+00	0.138932E+01	-0.609852E+00
2006	0.744000E+00	0.109775E+01	-0.388976E+00
2007	0.592000E+00	0.186944E+01	-0.114989E+01

Survey Index: 26 Tag: CT\_F AGE = 4  
Time = JAN-1 Type = NUMBER  
Catchability = 0.882136E-04 % Variance Contribution = 2.2883  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	N/A	0.688084E-01	N/A
1983	N/A	0.824425E-01	N/A
1984	N/A	0.118667E+00	N/A
1985	0.720000E-01	0.698143E-01	0.308278E-01
1986	0.750000E-01	0.360701E-01	0.732023E+00
1987	0.720000E-01	0.670987E-01	0.705011E-01
1988	0.330000E-01	0.685910E-01	-0.731653E+00
1989	0.370000E-01	0.372910E-01	-0.783372E-02
1990	0.150000E-01	0.249081E-01	-0.507143E+00
1991	0.420000E-01	0.338481E-01	0.215788E+00
1992	0.360000E-01	0.229765E-01	0.449047E+00
1993	0.460000E-01	0.108906E-01	0.144074E+01
1994	0.390000E-01	0.322234E-01	0.190870E+00
1995	0.240000E-01	0.484774E-01	-0.703043E+00
1996	0.120000E-01	0.624916E-01	-0.165013E+01
1997	0.420000E-01	0.826786E-01	-0.677291E+00
1998	0.373000E+00	0.153356E+00	0.888819E+00
1999	0.321000E+00	0.190362E+00	0.522512E+00
2000	0.346000E+00	0.237103E+00	0.377944E+00
2001	0.341000E+00	0.248848E+00	0.315039E+00
2002	0.436000E+00	0.296942E+00	0.384104E+00
2003	0.479000E+00	0.433467E+00	0.998852E-01
2004	0.407000E+00	0.469179E+00	-0.142171E+00
2005	0.440000E+00	0.453055E+00	-0.292389E-01
2006	0.355000E+00	0.610461E+00	-0.542097E+00
2007	0.230000E+00	0.476079E+00	-0.727503E+00

Survey Index: 27 Tag: CT\_F AGE = 5 - 7  
Time = JAN-1 Type = NUMBER  
Catchability = 0.606059E-04 % Variance Contribution = 3.6369  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	N/A	0.227563E-01	N/A
1983	N/A	0.268709E-01	N/A
1984	N/A	0.106023E-01	N/A
1985	0.250000E-01	0.254292E-01	-0.170228E-01
1986	0.900000E-02	0.184677E-01	-0.718801E+00
1987	0.700000E-02	0.105603E-01	-0.411188E+00
1988	0.300000E-02	0.117717E-01	-0.136708E+01
1989	0.300000E-02	0.546831E-02	-0.600358E+00
1990	0.100000E-02	0.329206E-02	-0.119151E+01
1991	0.120000E-01	0.263030E-02	0.151781E+01
1992	0.220000E-01	0.757744E-02	0.106587E+01
1993	0.250000E-01	0.736687E-02	0.122188E+01
1994	0.700000E-02	0.422681E-02	0.504462E+00
1995	0.900000E-02	0.758303E-02	0.171311E+00
1996	0.500000E-02	0.802065E-02	-0.472582E+00
1997	0.500000E-02	0.142726E-01	-0.104891E+01
1998	0.400000E-01	0.186997E-01	0.760371E+00

1999	0.750000E-01	0.412629E-01	0.597523E+00
2000	0.127000E+00	0.557755E-01	0.822853E+00
2001	0.191000E+00	0.717403E-01	0.979221E+00
2002	0.134000E+00	0.961391E-01	0.332044E+00
2003	0.183000E+00	0.151081E+00	0.191671E+00
2004	0.203000E+00	0.231153E+00	-0.129874E+00
2005	0.119000E+00	0.328558E+00	-0.101559E+01
2006	0.151000E+00	0.243214E+00	-0.476660E+00
2007	0.179000E+00	0.366068E+00	-0.715434E+00

Survey Index: 29 Tag: RI\_F AGE = 3  
Time = JAN-1 Type = NUMBER  
Catchability = 0.111458E-03 % Variance Contribution = 3.5748  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
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1982	0.174000E+01	0.241007E+00	0.197682E+01
1983	0.520000E+00	0.447450E+00	0.150265E+00
1984	0.420000E+00	0.489482E+00	-0.153093E+00
1985	0.490000E+00	0.267608E+00	0.604882E+00
1986	0.280000E+00	0.556453E+00	-0.686793E+00
1987	0.510000E+00	0.305057E+00	0.513913E+00
1988	0.370000E+00	0.313411E+00	0.165988E+00
1989	0.240000E+00	0.240623E+00	-0.259405E-02
1990	0.700000E-01	0.172257E+00	-0.900493E+00
1991	0.120000E+00	0.124872E+00	-0.397952E-01
1992	0.800000E-01	0.150588E+00	-0.632521E+00
1993	0.410000E+00	0.118351E+00	0.124250E+01
1994	0.220000E+00	0.193713E+00	0.127251E+00
1995	0.300000E-01	0.246488E+00	-0.210612E+01
1996	0.200000E+00	0.343587E+00	-0.541123E+00
1997	0.103000E+01	0.617895E+00	0.510995E+00
1998	0.960000E+00	0.926642E+00	0.353657E-01
1999	0.360000E+00	0.853215E+00	-0.862908E+00
2000	0.191000E+01	0.949886E+00	0.698517E+00
2001	0.124000E+01	0.912632E+00	0.306534E+00
2002	0.630000E+00	0.113693E+01	-0.590366E+00
2003	0.138000E+01	0.121203E+01	0.129784E+00
2004	0.208000E+01	0.127003E+01	0.493324E+00
2005	0.130000E+01	0.143607E+01	-0.995446E-01
2006	0.138000E+01	0.113469E+01	0.195728E+00
2007	0.113000E+01	0.193234E+01	-0.536514E+00

Survey Index: 30 Tag: RI\_F AGE = 4  
Time = JAN-1 Type = NUMBER  
Catchability = 0.854502E-04 % Variance Contribution = 4.4307  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
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1982	0.200000E+00	0.666529E-01	0.109882E+01
1983	0.700000E-01	0.798599E-01	-0.131779E+00

1984	0.110000E+00	0.114950E+00	-0.440133E-01
1985	0.100000E+00	0.676273E-01	0.391159E+00
1986	0.200000E-01	0.349402E-01	-0.557906E+00
1987	0.130000E+00	0.649968E-01	0.693197E+00
1988	0.200000E-01	0.664423E-01	-0.120060E+01
1989	N/A	0.361228E-01	N/A
1990	N/A	0.241278E-01	N/A
1991	N/A	0.327877E-01	N/A
1992	0.100000E-01	0.222567E-01	-0.800060E+00
1993	0.110000E+00	0.105495E-01	0.234441E+01
1994	0.700000E-01	0.312139E-01	0.807631E+00
1995	N/A	0.469588E-01	N/A
1996	N/A	0.605340E-01	N/A
1997	0.100000E-01	0.800886E-01	-0.208055E+01
1998	0.300000E-01	0.148552E+00	-0.159974E+01
1999	0.900000E-01	0.184399E+00	-0.717292E+00
2000	0.350000E+00	0.229676E+00	0.421266E+00
2001	0.450000E+00	0.241053E+00	0.624231E+00
2002	0.300000E+00	0.287640E+00	0.420715E-01
2003	0.400000E+00	0.419888E+00	-0.485237E-01
2004	0.490000E+00	0.454481E+00	0.752483E-01
2005	0.780000E+00	0.438863E+00	0.575107E+00
2006	0.690000E+00	0.591338E+00	0.154304E+00
2007	0.440000E+00	0.461165E+00	-0.469809E-01

Survey Index: 31 Tag: RI\_X AGE = 1  
Time = JAN-1 Type = NUMBER  
Catchability = 0.104477E-04 % Variance Contribution = 2.7813  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	N/A	0.440535E+00	N/A
1983	N/A	0.572068E+00	N/A
1984	N/A	0.628328E+00	N/A
1985	N/A	0.361437E+00	N/A
1986	N/A	0.388167E+00	N/A
1987	N/A	0.429008E+00	N/A
1988	N/A	0.357245E+00	N/A
1989	N/A	0.102281E+00	N/A
1990	0.170000E+00	0.219501E+00	-0.255557E+00
1991	0.700000E-01	0.237099E+00	-0.121998E+01
1992	0.150000E+00	0.231648E+00	-0.434583E+00
1993	0.110000E+00	0.258939E+00	-0.856111E+00
1994	0.800000E-01	0.267296E+00	-0.120633E+01
1995	0.200000E+00	0.281979E+00	-0.343516E+00
1996	0.410000E+00	0.321154E+00	0.244237E+00
1997	0.170000E+00	0.237588E+00	-0.334739E+00
1998	0.700000E-01	0.245926E+00	-0.125654E+01
1999	0.260000E+00	0.263784E+00	-0.144493E-01
2000	0.630000E+00	0.243322E+00	0.951333E+00
2001	0.420000E+00	0.278427E+00	0.411099E+00
2002	0.810000E+00	0.259803E+00	0.113711E+01
2003	0.148000E+01	0.298407E+00	0.160134E+01
2004	0.540000E+00	0.222886E+00	0.884909E+00

2005 0.550000E+00 0.363614E+00 0.413827E+00  
 2006 0.190000E+00 0.143893E+00 0.277954E+00  
 2007 N/A 0.265549E+00 N/A  
 Survey Index: 32 Tag: RI\_X AGE = 2 - 7  
 Time = JAN-1 Type = NUMBER  
 Catchability = 0.209505E-04 % Variance Contribution = 1.8304  
 Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
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1982	N/A	0.402411E+00	N/A
1983	N/A	0.472852E+00	N/A
1984	N/A	0.532117E+00	N/A
1985	N/A	0.609611E+00	N/A
1986	N/A	0.439016E+00	N/A
1987	N/A	0.393549E+00	N/A
1988	N/A	0.461141E+00	N/A
1989	N/A	0.260073E+00	N/A
1990	0.100000E+00	0.117832E+00	-0.164088E+00
1991	0.800000E-01	0.227775E+00	-0.104633E+01
1992	0.180000E+00	0.198988E+00	-0.100290E+00
1993	0.140000E+00	0.198548E+00	-0.349388E+00
1994	0.500000E-01	0.260398E+00	-0.165019E+01
1995	0.220000E+00	0.305089E+00	-0.326975E+00
1996	0.530000E+00	0.435345E+00	0.196739E+00
1997	0.520000E+00	0.537539E+00	-0.331722E-01
1998	0.360000E+00	0.559072E+00	-0.440175E+00
1999	0.610000E+00	0.581426E+00	0.479754E-01
2000	0.189000E+01	0.645933E+00	0.107364E+01
2001	0.550000E+00	0.625857E+00	-0.129204E+00
2002	0.111000E+01	0.720038E+00	0.432811E+00
2003	0.225000E+01	0.788074E+00	0.104909E+01
2004	0.153000E+01	0.890053E+00	0.541742E+00
2005	0.189000E+01	0.837131E+00	0.814351E+00
2006	0.109000E+01	0.100272E+01	0.834653E-01
2007	N/A	0.818811E+00	N/A

Survey Index: 33 Tag: NJ AGE = 1  
 Time = JAN-1 Type = NUMBER  
 Catchability = 0.158198E-03 % Variance Contribution = 1.8036  
 Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
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1982	N/A	0.667054E+01	N/A
1983	N/A	0.866220E+01	N/A
1984	N/A	0.951409E+01	N/A
1985	N/A	0.547285E+01	N/A
1986	N/A	0.587759E+01	N/A
1987	N/A	0.649600E+01	N/A
1988	0.306000E+01	0.540937E+01	-0.569718E+00
1989	0.510000E+00	0.154873E+01	-0.111078E+01
1990	0.144000E+01	0.332366E+01	-0.836424E+00

1991	0.269000E+01	0.359014E+01	-0.288649E+00
1992	0.300000E+01	0.350759E+01	-0.156317E+00
1993	0.569000E+01	0.392083E+01	0.372408E+00
1994	0.107000E+01	0.404738E+01	-0.133041E+01
1995	0.293000E+01	0.426970E+01	-0.376542E+00
1996	0.510000E+01	0.486288E+01	0.476089E-01
1997	0.825000E+01	0.359753E+01	0.829964E+00
1998	0.580000E+01	0.372379E+01	0.443116E+00
1999	0.612000E+01	0.399420E+01	0.426720E+00
2000	0.391000E+01	0.368437E+01	0.594390E-01
2001	0.332000E+01	0.421592E+01	-0.238902E+00
2002	0.911000E+01	0.393391E+01	0.839738E+00
2003	0.561000E+01	0.451846E+01	0.216380E+00
2004	0.627000E+01	0.337492E+01	0.619405E+00
2005	0.599000E+01	0.550580E+01	0.842885E-01
2006	0.574000E+01	0.217881E+01	0.968678E+00
2007	N/A	0.402091E+01	N/A

Survey Index: 34 Tag: NJ AGE = 2  
Time = JAN-1 Type = NUMBER  
Catchability = 0.688016E-04 % Variance Contribution = 4.0492  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
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1982	N/A	0.109325E+01	N/A
1983	N/A	0.118184E+01	N/A
1984	N/A	0.134073E+01	N/A
1985	N/A	0.175346E+01	N/A
1986	N/A	0.104914E+01	N/A
1987	N/A	0.103979E+01	N/A
1988	0.103000E+01	0.125407E+01	-0.196832E+00
1989	0.180000E+00	0.670256E+00	-0.131470E+01
1990	0.110000E+00	0.257464E+00	-0.850400E+00
1991	0.270000E+00	0.641546E+00	-0.865460E+00
1992	0.570000E+00	0.534000E+00	0.652400E-01
1993	0.200000E+00	0.562118E+00	-0.103340E+01
1994	0.800000E-01	0.705642E+00	-0.217708E+01
1995	0.280000E+00	0.803341E+00	-0.105399E+01
1996	0.270000E+01	0.115974E+01	0.845058E+00
1997	0.525000E+01	0.130317E+01	0.139342E+01
1998	0.267000E+01	0.112316E+01	0.865935E+00
1999	0.346000E+01	0.118741E+01	0.106949E+01
2000	0.182000E+01	0.128665E+01	0.346793E+00
2001	0.118000E+01	0.121643E+01	-0.304099E-01
2002	0.413000E+01	0.132206E+01	0.113909E+01
2003	0.255000E+01	0.133028E+01	0.650705E+00
2004	0.249000E+01	0.151062E+01	0.499763E+00
2005	0.124000E+01	0.113633E+01	0.873045E-01
2006	0.322000E+01	0.184027E+01	0.559469E+00
2007	N/A	0.709291E+00	N/A

Survey Index: 35 Tag: NJ AGE = 3  
Time = JAN-1 Type = NUMBER  
Catchability = 0.436851E-04 % Variance Contribution = 1.9201



Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	N/A	0.944603E-01	N/A
1983	N/A	0.175374E+00	N/A
1984	N/A	0.191848E+00	N/A
1985	N/A	0.104887E+00	N/A
1986	N/A	0.218097E+00	N/A
1987	N/A	0.119564E+00	N/A
1988	N/A	0.122838E+00	N/A
1989	N/A	0.943101E-01	N/A
1990	0.300000E-01	0.675146E-01	-0.811146E+00
1991	0.200000E-01	0.489423E-01	-0.894910E+00
1992	0.600000E-01	0.590216E-01	0.164418E-01
1993	0.100000E-01	0.463867E-01	-0.153443E+01
1994	N/A	0.759239E-01	N/A
1995	0.500000E-01	0.966088E-01	-0.658647E+00
1996	0.180000E+00	0.134666E+00	0.290161E+00
1997	0.102000E+01	0.242178E+00	0.143788E+01
1998	0.290000E+00	0.363189E+00	-0.225042E+00
1999	0.650000E+00	0.334410E+00	0.664605E+00
2000	0.450000E+00	0.372299E+00	0.189551E+00
2001	0.410000E+00	0.357698E+00	0.136469E+00
2002	0.128000E+01	0.445609E+00	0.105517E+01
2003	0.570000E+00	0.475045E+00	0.182227E+00
2004	0.570000E+00	0.497778E+00	0.135482E+00
2005	0.530000E+00	0.562853E+00	-0.601423E-01
2006	0.480000E+00	0.444730E+00	0.763197E-01
2007	N/A	0.757363E+00	N/A

Survey Index: 36 Tag: NJ AGE = 4 - 7  
 Time = JAN-1 Type = NUMBER  
 Catchability = 0.588380E-04 % Variance Contribution = 1.4859  
 Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	N/A	0.679873E-01	N/A
1983	N/A	0.810758E-01	N/A
1984	N/A	0.894432E-01	N/A
1985	N/A	0.712532E-01	N/A
1986	N/A	0.419876E-01	N/A
1987	N/A	0.550067E-01	N/A
1988	N/A	0.571781E-01	N/A
1989	N/A	0.301817E-01	N/A
1990	N/A	0.198096E-01	N/A
1991	N/A	0.251301E-01	N/A
1992	0.200000E-01	0.226816E-01	-0.125823E+00
1993	0.100000E-01	0.144160E-01	-0.365751E+00
1994	0.200000E-01	0.255963E-01	-0.246717E+00
1995	0.160000E+00	0.396960E-01	0.139392E+01
1996	0.500000E-01	0.494683E-01	0.106918E-01
1997	0.180000E+00	0.690025E-01	0.958814E+00

1998	0.400000E-01	0.120442E+00	-0.110229E+01
1999	0.180000E+00	0.167030E+00	0.747840E-01
2000	0.220000E+00	0.212295E+00	0.356508E-01
2001	0.150000E+00	0.235628E+00	-0.451620E+00
2002	0.810000E+00	0.291394E+00	0.102236E+01
2003	0.510000E+00	0.435794E+00	0.157241E+00
2004	0.430000E+00	0.537350E+00	-0.222865E+00
2005	0.320000E+00	0.621159E+00	-0.663266E+00
2006	0.400000E+00	0.643293E+00	-0.475137E+00
2007	N/A	0.672932E+00	N/A

Survey Index: 40 Tag: CT\_Y AGE = 0  
Time = JAN-1 Type = NUMBER  
Catchability = 0.184557E-05 % Variance Contribution = 3.7718  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	N/A	0.134296E+00	N/A
1983	N/A	0.145585E+00	N/A
1984	N/A	0.877426E-01	N/A
1985	0.240000E+00	0.879787E-01	0.100354E+01
1986	0.172000E+00	0.965143E-01	0.577803E+00
1987	0.750000E-01	0.793931E-01	-0.569234E-01
1988	0.150000E-01	0.236851E-01	-0.456796E+00
1989	N/A	0.493129E-01	N/A
1990	0.320000E-01	0.549313E-01	-0.540348E+00
1991	0.360000E-01	0.520172E-01	-0.368055E+00
1992	0.130000E-01	0.586519E-01	-0.150667E+01
1993	0.840000E-01	0.602864E-01	0.331710E+00
1994	0.132000E+00	0.641722E-01	0.721232E+00
1995	0.230000E-01	0.704972E-01	-0.112008E+01
1996	0.690000E-01	0.515917E-01	0.290746E+00
1997	0.330000E-01	0.531220E-01	-0.476084E+00
1998	N/A	0.570056E-01	N/A
1999	0.440000E-01	0.528677E-01	-0.183602E+00
2000	0.120000E-01	0.601181E-01	-0.161140E+01
2001	0.210000E-01	0.560774E-01	-0.982210E+00
2002	0.442000E+00	0.649381E-01	0.191788E+01
2003	N/A	0.486171E-01	N/A
2004	0.255000E+00	0.786710E-01	0.117599E+01
2005	0.670000E-01	0.315450E-01	0.753276E+00
2006	0.980000E-01	0.576836E-01	0.529995E+00
2007	N/A	0.000000E+00	N/A

Survey Index: 41 Tag: VA\_CRY AGE = 0  
Time = JAN-1 Type = NUMBER  
Catchability = 0.281985E-04 % Variance Contribution = 1.8494  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	0.227000E+01	0.205191E+01	0.101010E+00

1983	0.501000E+01	0.222439E+01	0.811954E+00
1984	0.158000E+01	0.134062E+01	0.164292E+00
1985	0.126000E+01	0.134423E+01	-0.647082E-01
1986	0.126000E+01	0.147464E+01	-0.157305E+00
1987	0.390000E+00	0.121305E+01	-0.113475E+01
1988	0.540000E+00	0.361885E+00	0.400242E+00
1989	0.124000E+01	0.753453E+00	0.498200E+00
1990	0.254000E+01	0.839296E+00	0.110736E+01
1991	0.264000E+01	0.794772E+00	0.120048E+01
1992	0.890000E+00	0.896143E+00	-0.687871E-02
1993	0.500000E+00	0.921117E+00	-0.610979E+00
1994	0.241000E+01	0.980488E+00	0.899332E+00
1995	0.630000E+00	0.107713E+01	-0.536333E+00
1996	0.810000E+00	0.788270E+00	0.271930E-01
1997	0.890000E+00	0.811652E+00	0.921498E-01
1998	0.730000E+00	0.870989E+00	-0.176585E+00
1999	0.530000E+00	0.807766E+00	-0.421395E+00
2000	0.570000E+00	0.918545E+00	-0.477155E+00
2001	0.470000E+00	0.856807E+00	-0.600480E+00
2002	0.770000E+00	0.992190E+00	-0.253524E+00
2003	0.440000E+00	0.742821E+00	-0.523681E+00
2004	0.130000E+01	0.120202E+01	0.783647E-01
2005	0.350000E+00	0.481977E+00	-0.319964E+00
2006	0.800000E+00	0.881348E+00	-0.968410E-01
2007	N/A	0.000000E+00	N/A

Survey Index: 43 Tag: MD\_Y AGE = 0  
Time = JAN-1 Type = NUMBER  
Catchability = 0.238811E-03 % Variance Contribution = 2.3052  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	0.340800E+01	0.173774E+02	-0.162905E+01
1983	0.176990E+02	0.188382E+02	-0.623780E-01
1984	0.133100E+02	0.113536E+02	0.158979E+00
1985	0.128430E+02	0.113842E+02	0.120575E+00
1986	0.595260E+02	0.124886E+02	0.156159E+01
1987	0.758400E+01	0.102732E+02	-0.303500E+00
1988	0.176300E+01	0.306478E+01	-0.552959E+00
1989	0.285500E+01	0.638094E+01	-0.804243E+00
1990	0.473300E+01	0.710794E+01	-0.406653E+00
1991	0.733700E+01	0.673086E+01	0.862266E-01
1992	0.848700E+01	0.758937E+01	0.111787E+00
1993	0.414500E+01	0.780087E+01	-0.632333E+00
1994	0.223110E+02	0.830368E+01	0.988381E+00
1995	0.130670E+02	0.912211E+01	0.359388E+00
1996	0.649300E+01	0.667581E+01	-0.277653E-01
1997	0.799700E+01	0.687382E+01	0.151346E+00
1998	0.149830E+02	0.737634E+01	0.708638E+00
1999	0.856500E+01	0.684091E+01	0.224763E+00
2000	0.987400E+01	0.777909E+01	0.238465E+00
2001	0.135430E+02	0.725624E+01	0.624009E+00
2002	0.540600E+01	0.840278E+01	-0.441054E+00
2003	0.818000E+01	0.629090E+01	0.262588E+00

2004	0.699300E+01	0.101798E+02	-0.375494E+00
2005	0.219800E+01	0.408183E+01	-0.618998E+00
2006	0.965800E+01	0.746407E+01	0.257685E+00
2007	N/A	0.000000E+00	N/A

Survey Index: 44 Tag: NJ\_Y AGE = 0  
Time = JAN-1 Type = NUMBER  
Catchability = 0.392777E-04 % Variance Contribution = 1.7872  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
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1982	N/A	0.285810E+01	N/A
1983	N/A	0.309835E+01	N/A
1984	N/A	0.186735E+01	N/A
1985	N/A	0.187237E+01	N/A
1986	N/A	0.205403E+01	N/A
1987	N/A	0.168965E+01	N/A
1988	0.170000E+00	0.504069E+00	-0.108691E+01
1989	0.100000E+01	0.104948E+01	-0.482972E-01
1990	0.128000E+01	0.116905E+01	0.906653E-01
1991	0.100000E+01	0.110704E+01	-0.101686E+00
1992	0.110000E+01	0.124824E+01	-0.126421E+00
1993	0.255000E+01	0.128302E+01	0.686875E+00
1994	0.166000E+01	0.136572E+01	0.195136E+00
1995	0.495000E+01	0.150033E+01	0.119370E+01
1996	0.166000E+01	0.109798E+01	0.413345E+00
1997	0.165000E+01	0.113055E+01	0.378073E+00
1998	0.670000E+00	0.121320E+01	-0.593738E+00
1999	0.103000E+01	0.112513E+01	-0.883442E-01
2000	0.950000E+00	0.127944E+01	-0.297716E+00
2001	0.620000E+00	0.119344E+01	-0.654879E+00
2002	0.151000E+01	0.138202E+01	0.885644E-01
2003	0.600000E+00	0.103467E+01	-0.544912E+00
2004	0.900000E+00	0.167428E+01	-0.620746E+00
2005	0.311000E+01	0.671345E+00	0.153309E+01
2006	0.810000E+00	0.122763E+01	-0.415805E+00
2007	N/A	0.000000E+00	N/A

Survey Index: 45 Tag: NEC\_Y AGE = 0  
Time = JAN-1 Type = NUMBER  
Catchability = 0.818325E-05 % Variance Contribution = 3.2225  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
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1982	0.550000E+00	0.595466E+00	-0.794252E-01
1983	0.960000E+00	0.645520E+00	0.396877E+00
1984	0.180000E+00	0.389049E+00	-0.770750E+00
1985	0.590000E+00	0.390096E+00	0.413729E+00
1986	0.390000E+00	0.427943E+00	-0.928436E-01
1987	0.700000E-01	0.352028E+00	-0.161522E+01
1988	0.600000E-01	0.105019E+00	-0.559801E+00

1989	0.310000E+00	0.218653E+00	0.349087E+00
1990	0.440000E+00	0.243565E+00	0.591392E+00
1991	0.760000E+00	0.230644E+00	0.119244E+01
1992	0.990000E+00	0.260062E+00	0.133679E+01
1993	0.230000E+00	0.267309E+00	-0.150327E+00
1994	0.750000E+00	0.284539E+00	0.969204E+00
1995	0.930000E+00	0.312584E+00	0.109031E+01
1996	0.110000E+00	0.228757E+00	-0.732180E+00
1997	0.170000E+00	0.235542E+00	-0.326092E+00
1998	0.380000E+00	0.252762E+00	0.407723E+00
1999	0.210000E+00	0.234414E+00	-0.109983E+00
2000	0.220000E+00	0.266563E+00	-0.191983E+00
2001	0.120000E+00	0.248646E+00	-0.728540E+00
2002	0.600000E-01	0.287935E+00	-0.156839E+01
2003	0.180000E+00	0.215568E+00	-0.180317E+00
2004	0.360000E+00	0.348826E+00	0.315304E-01
2005	0.160000E+00	0.139870E+00	0.134458E+00
2006	0.310000E+00	0.255768E+00	0.192301E+00
2007	N/A	0.000000E+00	N/A

Survey Index: 50 Tag: DE\_IY AGE = 0  
Time = JAN-1 Type = NUMBER  
Catchability = 0.548734E-05 % Variance Contribution = 3.7931  
Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	N/A	0.399294E+00	N/A
1983	N/A	0.432858E+00	N/A
1984	N/A	0.260880E+00	N/A
1985	N/A	0.261582E+00	N/A
1986	0.320000E+00	0.286960E+00	0.108977E+00
1987	0.260000E+00	0.236055E+00	0.966172E-01
1988	0.100000E-01	0.704216E-01	-0.195191E+01
1989	0.140000E+00	0.146619E+00	-0.461964E-01
1990	0.360000E+00	0.163324E+00	0.790368E+00
1991	0.380000E+00	0.154660E+00	0.898944E+00
1992	0.370000E+00	0.174386E+00	0.752230E+00
1993	0.500000E-01	0.179246E+00	-0.127674E+01
1994	0.570000E+00	0.190799E+00	0.109441E+01
1995	0.300000E+00	0.209605E+00	0.358557E+00
1996	0.800000E-01	0.153395E+00	-0.650987E+00
1997	0.220000E+00	0.157945E+00	0.331383E+00
1998	0.390000E+00	0.169491E+00	0.833345E+00
1999	0.350000E+00	0.157188E+00	0.800488E+00
2000	0.210000E+00	0.178746E+00	0.161144E+00
2001	0.140000E+00	0.166732E+00	-0.174743E+00
2002	0.130000E+00	0.193077E+00	-0.395552E+00
2003	0.210000E+00	0.144550E+00	0.373479E+00
2004	0.270000E+00	0.233908E+00	0.143495E+00
2005	0.100000E-01	0.937911E-01	-0.223848E+01
2006	0.170000E+00	0.171507E+00	-0.882677E-02
2007	N/A	0.000000E+00	N/A

Survey Index: 51 Tag: RI\_XY AGE = 0

Time = JAN-1                      Type = NUMBER  
 Catchability = 0.105736E-05    % Variance Contribution = 2.0427  
 Residual = LN(Observed) - LN(Predicted)

Year	Observed	Predicted	Residual
1982	N/A	0.769404E-01	N/A
1983	N/A	0.834080E-01	N/A
1984	N/A	0.502693E-01	N/A
1985	N/A	0.504046E-01	N/A
1986	N/A	0.552948E-01	N/A
1987	N/A	0.454857E-01	N/A
1988	N/A	0.135696E-01	N/A
1989	N/A	0.282522E-01	N/A
1990	0.200000E-01	0.314711E-01	-0.453338E+00
1991	N/A	0.298016E-01	N/A
1992	0.100000E-01	0.336027E-01	-0.121202E+01
1993	0.100000E-01	0.345392E-01	-0.123951E+01
1994	0.400000E-01	0.367654E-01	0.843227E-01
1995	0.300000E-01	0.403891E-01	-0.297362E+00
1996	0.200000E-01	0.295578E-01	-0.390616E+00
1997	0.400000E-01	0.304345E-01	0.273301E+00
1998	N/A	0.326595E-01	N/A
1999	0.300000E-01	0.302888E-01	-0.958128E-02
2000	0.900000E-01	0.344427E-01	0.960512E+00
2001	0.100000E-01	0.321277E-01	-0.116713E+01
2002	0.110000E+00	0.372042E-01	0.108406E+01
2003	0.500000E-01	0.278536E-01	0.585061E+00
2004	0.100000E+00	0.450720E-01	0.796909E+00
2005	0.400000E-01	0.180727E-01	0.794476E+00
2006	0.400000E-01	0.330479E-01	0.190920E+00
2007	N/A	0.000000E+00	N/A

Bootstrap Summary Report

Number of Bootstrap Repetitions Requested = 1000  
 Number of Bootstrap Repetitions Completed = 1000  
 Bootstrap Output Variable: Stock Estimates (2007)

	NLLS Estimate	Bootstrap Mean	Bootstrap Std Error	C.V. For NLLS Soln.
N 1	25417.	26349.	7012.	0.2661
N 2	10309.	10557.	1972.	0.1868
N 3	17337.	17551.	3000.	0.1709
N 4	5397.	5530.	1089.	0.1969
N 5	4052.	4183.	999.	0.2387
N 6	1050.	1070.	618.	0.5770

	Bias Estimate	Bias Std. Error	Per Cent Bias	NLLS Estimate Corrected For Bias	C.V. For Corrected Estimate
N 1	932.	224.	3.6667	24485.	0.2864
N 2	248.	63.	2.4016	10062.	0.1960
N 3	214.	95.	1.2362	17123.	0.1752
N 4	133.	35.	2.4735	5263.	0.2069
N 5	131.	32.	3.2207	3922.	0.2546
N 6	20.	20.	1.8983	1030.	0.5993

	LOWER 80. % CI	UPPER 80. % CI
N 1	18111.	35811.
N 2	8156.	12982.
N 3	13838.	21682.
N 4	4150.	7029.
N 5	2961.	5484.
N 6	314.	1912.

Bootstrap Output Variable: Catchability Estimates

	NLLS Estimate	Bootstrap Mean	Bootstrap Std Error	C.V. For NLLS Soln.
Q 1	0.141956E-03	0.144377E-03	0.268216E-04	0.1858
Q 2	0.416467E-03	0.417257E-03	0.460376E-04	0.1103
Q 3	0.341157E-03	0.344519E-03	0.446112E-04	0.1295
Q 4	0.337567E-03	0.344664E-03	0.692883E-04	0.2010
Q 5	0.447993E-03	0.454280E-03	0.762677E-04	0.1679
Q 6	0.138176E-04	0.140125E-04	0.201795E-05	0.1440
Q 7	0.379163E-04	0.379396E-04	0.372445E-05	0.0982
Q 8	0.344239E-04	0.347738E-04	0.566360E-05	0.1629
Q 9	0.383975E-04	0.387446E-04	0.490521E-05	0.1266
Q 10	0.652723E-04	0.653020E-04	0.828351E-05	0.1268
Q 11	0.676126E-04	0.677628E-04	0.435628E-05	0.0643
Q 12	0.811036E-04	0.814997E-04	0.101574E-04	0.1246
Q 13	0.756270E-04	0.759580E-04	0.104538E-04	0.1376
Q 15	0.406577E-04	0.408039E-04	0.750765E-05	0.1840
Q 16	0.432367E-04	0.438196E-04	0.691473E-05	0.1578
Q 18	0.168215E-03	0.169128E-03	0.178186E-04	0.1054
Q 19	0.657295E-04	0.663685E-04	0.123035E-04	0.1854
Q 21	0.173459E-04	0.175807E-04	0.277520E-05	0.1579
Q 22	0.184656E-04	0.184226E-04	0.282619E-05	0.1534
Q 23	0.295921E-04	0.299883E-04	0.548508E-05	0.1829
Q 24	0.425758E-04	0.430757E-04	0.671349E-05	0.1559
Q 25	0.107830E-03	0.108402E-03	0.137740E-04	0.1271
Q 26	0.882136E-04	0.889029E-04	0.121949E-04	0.1372
Q 27	0.606059E-04	0.610114E-04	0.103205E-04	0.1692
Q 29	0.111458E-03	0.112712E-03	0.167646E-04	0.1487
Q 30	0.854502E-04	0.879589E-04	0.177854E-04	0.2022
Q 31	0.104477E-04	0.107553E-04	0.217898E-05	0.2026
Q 32	0.209505E-04	0.213432E-04	0.354405E-05	0.1661
Q 33	0.158198E-03	0.160302E-03	0.235884E-04	0.1471
Q 34	0.688016E-04	0.702375E-04	0.151014E-04	0.2150
Q 35	0.436851E-04	0.441118E-04	0.834166E-05	0.1891
Q 36	0.588380E-04	0.595460E-04	0.102164E-04	0.1716
Q 40	0.184557E-05	0.187828E-05	0.417155E-06	0.2221
Q 41	0.281985E-04	0.283534E-04	0.304266E-05	0.1073
Q 43	0.238811E-03	0.238872E-03	0.293040E-04	0.1227
Q 44	0.392777E-04	0.397527E-04	0.601836E-05	0.1514
Q 45	0.818325E-05	0.825855E-05	0.120797E-05	0.1463
Q 50	0.548734E-05	0.560958E-05	0.107908E-05	0.1924
Q 51	0.105736E-05	0.107593E-05	0.216337E-06	0.2011



	Bias Estimate	Bias Std. Error	Per Cent Bias	NLLS Estimate Corrected For Bias	C.V. For Corrected Estimate
Q 1	0.2421E-05	0.8516E-06	1.7053	0.1395E-03	0.1922
Q 2	0.7895E-06	0.1456E-05	0.1896	0.4157E-03	0.1108
Q 3	0.3363E-05	0.1415E-05	0.9856	0.3378E-03	0.1321
Q 4	0.7097E-05	0.2203E-05	2.1022	0.3305E-03	0.2097
Q 5	0.6287E-05	0.2420E-05	1.4034	0.4417E-03	0.1727
Q 6	0.1949E-06	0.6411E-07	1.4107	0.1362E-04	0.1481
Q 7	0.2328E-07	0.1178E-06	0.0614	0.3789E-04	0.0983
Q 8	0.3499E-06	0.1794E-06	1.0165	0.3407E-04	0.1662
Q 9	0.3471E-06	0.1555E-06	0.9040	0.3805E-04	0.1289
Q 10	0.2969E-07	0.2619E-06	0.0455	0.6524E-04	0.1270
Q 11	0.1502E-06	0.1378E-06	0.2222	0.6746E-04	0.0646
Q 12	0.3961E-06	0.3214E-06	0.4884	0.8071E-04	0.1259
Q 13	0.3309E-06	0.3307E-06	0.4376	0.7530E-04	0.1388
Q 15	0.1462E-06	0.2375E-06	0.3596	0.4051E-04	0.1853
Q 16	0.5829E-06	0.2194E-06	1.3482	0.4265E-04	0.1621
Q 18	0.9127E-06	0.5642E-06	0.5426	0.1673E-03	0.1065
Q 19	0.6390E-06	0.3896E-06	0.9722	0.6509E-04	0.1890
Q 21	0.2348E-06	0.8807E-07	1.3539	0.1711E-04	0.1622
Q 22	-0.4295E-07	0.8938E-07	-0.2326	0.1851E-04	0.1527
Q 23	0.3962E-06	0.1739E-06	1.3388	0.2920E-04	0.1879
Q 24	0.5000E-06	0.2129E-06	1.1743	0.4208E-04	0.1596
Q 25	0.5713E-06	0.4359E-06	0.5298	0.1073E-03	0.1284
Q 26	0.6893E-06	0.3863E-06	0.7814	0.8752E-04	0.1393
Q 27	0.4055E-06	0.3266E-06	0.6690	0.6020E-04	0.1714
Q 29	0.1254E-05	0.5316E-06	1.1250	0.1102E-03	0.1521
Q 30	0.2509E-05	0.5680E-06	2.9358	0.8294E-04	0.2144
Q 31	0.3076E-06	0.6959E-07	2.9443	0.1014E-04	0.2149
Q 32	0.3926E-06	0.1128E-06	1.8741	0.2056E-04	0.1724
Q 33	0.2104E-05	0.7489E-06	1.3303	0.1561E-03	0.1511
Q 34	0.1436E-05	0.4797E-06	2.0870	0.6737E-04	0.2242
Q 35	0.4267E-06	0.2641E-06	0.9767	0.4326E-04	0.1928
Q 36	0.7080E-06	0.3238E-06	1.2032	0.5813E-04	0.1758
Q 40	0.3271E-07	0.1323E-07	1.7724	0.1813E-05	0.2301
Q 41	0.1548E-06	0.9634E-07	0.5490	0.2804E-04	0.1085
Q 43	0.6051E-07	0.9267E-06	0.0253	0.2388E-03	0.1227
Q 44	0.4751E-06	0.1909E-06	1.2095	0.3880E-04	0.1551
Q 45	0.7530E-07	0.3827E-07	0.9202	0.8108E-05	0.1490
Q 50	0.1222E-06	0.3434E-07	2.2277	0.5365E-05	0.2011
Q 51	0.1857E-07	0.6866E-08	1.7565	0.1039E-05	0.2083

	LOWER	UPPER
	80. % CI	80. % CI
Q 1	0.112036E-03	0.180010E-03
Q 2	0.359080E-03	0.478381E-03
Q 3	0.286682E-03	0.401303E-03
Q 4	0.261438E-03	0.438939E-03
Q 5	0.358378E-03	0.556110E-03
Q 6	0.115449E-04	0.167038E-04
Q 7	0.332723E-04	0.428684E-04
Q 8	0.280821E-04	0.420938E-04
Q 9	0.330031E-04	0.449621E-04
Q 10	0.549324E-04	0.763026E-04
Q 11	0.624910E-04	0.733437E-04
Q 12	0.688536E-04	0.947504E-04
Q 13	0.628368E-04	0.900336E-04
Q 15	0.317869E-04	0.504297E-04
Q 16	0.352138E-04	0.530894E-04
Q 18	0.146402E-03	0.191180E-03
Q 19	0.507996E-04	0.820121E-04
Q 21	0.141584E-04	0.211271E-04
Q 22	0.147976E-04	0.220057E-04
Q 23	0.233439E-04	0.373245E-04
Q 24	0.348111E-04	0.521047E-04
Q 25	0.913635E-04	0.126317E-03
Q 26	0.743632E-04	0.105116E-03
Q 27	0.482438E-04	0.746251E-04
Q 29	0.920065E-04	0.134781E-03
Q 30	0.661910E-04	0.111862E-03
Q 31	0.807179E-05	0.138281E-04
Q 32	0.169426E-04	0.258124E-04
Q 33	0.131372E-03	0.191889E-03
Q 34	0.519500E-04	0.895232E-04
Q 35	0.337537E-04	0.551920E-04
Q 36	0.471333E-04	0.735044E-04
Q 40	0.138653E-05	0.241088E-05
Q 41	0.245639E-04	0.322148E-04
Q 43	0.201019E-03	0.275279E-03
Q 44	0.323671E-04	0.475623E-04
Q 45	0.674154E-05	0.988610E-05
Q 50	0.428971E-05	0.711304E-05
Q 51	0.813957E-06	0.135144E-05

Bootstrap Output Variable: Fishing Mortality (2006)

	NLLS Estimate	Bootstrap Mean	Bootstrap Std Error	C.V. For NLLS Soln.
AGE 0	0.0068	0.0070	0.001881	0.2691
AGE 1	0.0897	0.0905	0.016744	0.1850
AGE 2	0.2336	0.2366	0.037063	0.1567
AGE 3	0.4346	0.4376	0.072465	0.1656
AGE 4	0.3351	0.3402	0.070982	0.2086
AGE 5	0.5542	0.8471	0.966894	1.1414
AGE 6	0.4413	0.5416	0.322605	0.5956
AGE 7	0.4413	0.5416	0.322605	0.5956

	Bias Estimate	Bias Std. Error	Per Cent Bias	NLLS Estimate Corrected For Bias	C.V. For Corrected Estimate
AGE 0	0.000226	0.000060	3.3477	0.0065	0.2877
AGE 1	0.000871	0.000530	0.9712	0.0888	0.1886
AGE 2	0.002987	0.001176	1.2785	0.2306	0.1607
AGE 3	0.002936	0.002293	0.6754	0.4317	0.1679
AGE 4	0.005071	0.002250	1.5131	0.3301	0.2151
AGE 5	0.292848	0.031949	52.8383	0.2614	3.6991
AGE 6	0.100285	0.010684	22.7231	0.3410	0.9459
AGE 7	0.100285	0.010684	22.7231	0.3410	0.9459

	LOWER 80. % CI	UPPER 80. % CI
AGE 0	0.004805	0.009459
AGE 1	0.071776	0.111962
AGE 2	0.190978	0.284672
AGE 3	0.349422	0.533902
AGE 4	0.257760	0.433694
AGE 5	0.342392	1.237426
AGE 6	0.366798	0.661731
AGE 7	0.366798	0.661731

Bootstrap Output Variable: Average F (2006) AGES 3 - 5

	NLLS Estimate	Bootstrap Mean	Bootstrap Std Error	C.V. For NLLS Soln.
AVG F	0.4413	0.5416	0.322605	0.5956
N WTD	0.4128	0.4215	0.065338	0.1550
B WTD	0.4149	0.4287	0.080532	0.1879
C WTD	0.4221	0.4680	0.147340	0.3148

  

	Bias Estimate	Bias Std. Error	Per Cent Bias	NLLS Estimate Corrected For Bias	C.V. For Corrected Estimate
AVG F	0.100285	0.010684	22.7231	0.3410	0.9459
N WTD	0.008625	0.002084	2.0892	0.4042	0.1616
B WTD	0.013761	0.002584	3.3164	0.4012	0.2007
C WTD	0.045987	0.004881	10.8961	0.3761	0.3918

  

	LOWER 80. % CI	UPPER 80. % CI
AVG F	0.366798	0.661731
N WTD	0.351353	0.500226
B WTD	0.351202	0.509919
C WTD	0.364438	0.541993

Bootstrap Output Variable: Biomass

JAN-1 Biomass (2007) Mean Biomass & SSB (2006)

	NLLS Estimate	Bootstrap Mean	Bootstrap Std Error	C.V. For NLLS Soln.	
JAN-1	45974.	46852.	4806.	0.1026	
MEAN	44433.	45150.	4011.	0.0888	
SSB	40508.	41148.	4108.	0.0998	
	Bias Estimate	Bias Std. Error	Per Cent Bias	NLLS Estimate Corrected For Bias	C.V. For Corrected Estimate
JAN-1	878.	155.	1.9098	45096.	0.1066
MEAN	717.	129.	1.6140	43716.	0.0918
SSB	640.	131.	1.5809	39868.	0.1030
	LOWER 80. % CI	UPPER 80. % CI			
JAN-1	40829.	52971.			
MEAN	40097.	50304.			
SSB	35922.	46331.			

Plus Group Diagnostic Report

Calculation Method Selected = Backward

Year	Population Backward	Population Forward	F Forward	F Backward	Ratio
1982	67.	67.	0.663932	0.663932	1.000000
1983	71.	92.	0.713070	1.057326	1.482781
1984	14.	44.	0.283633	1.391481	4.905918
1985	11.	29.	0.366595	1.434884	3.914087
1986	20.	24.	1.089646	1.670284	1.532869
1987	71.	54.	2.078124	1.125094	0.541399
1988	27.	26.	2.078124	1.794470	0.863505
1989	5.	5.	2.078124	1.878650	0.904013
1990	4.	4.	2.078124	1.278000	0.614978
1991	2.	3.	0.506289	1.189165	2.348787
1992	1.	3.	0.567854	1.779020	3.132882
1993	6.	4.	2.078124	0.887367	0.427004
1994	9.	12.	0.575801	0.956601	1.661340
1995	2.	14.	0.085042	1.036577	12.188986
1996	5.	12.	0.317148	1.005173	3.169409
1997	7.	15.	0.334670	0.984998	2.943196
1998	2.	15.	0.077002	1.100186	14.287727
1999	26.	20.	1.455874	0.869515	0.597246
2000	53.	39.	1.598323	0.908901	0.568660
2001	73.	51.	1.207716	0.680871	0.563767
2002	67.	125.	0.247970	0.519636	2.095560
2003	246.	257.	0.455602	0.481929	1.057786
2004	424.	471.	0.450762	0.515088	1.142705
2005	1312.	650.	1.510305	0.497472	0.329385
2006	605.	826.	0.273436	0.394353	1.442211
2007	1072.	1253.	N/A	N/A	

Warning \*\*\*\* Infeasible Mass Balance in Plus Group

Year = 1993

Year = 2005