SS2 ALTERNATIVE RUN (F08_SVAge comp.REP)

```
Code_version_:__2.00o;_01/31/08;_Stock_Synthesis_2_by_Richard_Methot_(NOAA);_
using_Otter_Research_ADMB_7.0.1

Time: Mon Mar 24 10:22:43 2008

Data_File: F08_MULTI_SVAGE.DAT
Control_File: F08_MULTI_SVAGE.CTL

Convergence_Level:
Hessian:
Sum_of_months_on_read_was:_ 12 rescaled_to_sum_to: 1

LIKELIHOOD 4856.09
indices 846.218
discard 0
length_comps 0
age_comps 3994.71
size-at-age 0
mean_body_wt 0
Equil_catch 0
catch 15.1549
Recruitment 0
Parm_priors 0
Parm_devs 0
penalties 0
Forecast_Recruitment 0

Fleet surv_lambda surv_like disc_lambda disc_like length_lambda length_like
age_lambda age_like sizeage_lambda sizeage_like
1 0 0 0 0 0 0 1 227.475 0 0
2 0 0 0 0 0 0 1 669.724 0 0
3 0 0 0 0 0 0 1 306.226 0 0
4 0 0 0 0 0 0 1 167.667 0 0
5 0 0 0 0 0 0 1 210.481 0 0
6 0 0 0 0 0 0 1 165.856 0 0
7 1 51.8476 0 0 0 0 1 95.0189 0 0
8 1 46.9423 0 0 0 0 1 215.315 0 0
9 1 26.899 0 0 0 0 1 223.489 0 0
10 1 172.422 0 0 0 0 1 164.952 0 0
11 1 259.163 0 0 0 0 1 464.187 0 0
12 1 38.1829 0 0 0 0 1 139.974 0 0
13 1 27.8704 0 0 0 0 1 173.175 0 0
14 1 59.5867 0 0 0 0 1 354.729 0 0
15 1 38.0936 0 0 0 0 1 132.604 0 0
16 1 12.1586 0 0 0 0 1 283.841 0 0
17 1 27.6408 0 0 0 0 1 0 0 0
18 1 29.2281 0 0 0 0 1 0 0 0
19 1 56.1833 0 0 0 0 1 0 0 0

Source Lambda Like
mean_body_wt 0 0
Equil_catch 0 0
Catch 10 1.51549
```

```
Recruitment 0 0
Parm_priors 0 0
Parm_devs 1 0
penalties 0


Variance_adjustments_to_input_values 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19
Index_extra_CV  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Discard_extra_CV  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
MeanBodyWt_extra_CV  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
effN_mult_Lencomp  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
effN_mult_Agecomp  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
effN_mult_Len-at-age  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

PARAMETERS
Num Value Phase Min Max Init Prior PR_type SD Active_Cnt Prior_Like Bound
M-G_parmsUsing_offset_approach_#:_3
Gender:_1__Pattern:_1
1 0.2 -3
2 0 -3
3 28.1 -2
4 60.2 -2
5 0.2052 -3
6 0.1 -2
7 0 -3
biology_parms
8 2.44e-006 -3
9 3.34694 -3
10 28.1 -3
11 -0.25 -3
12 1 -3
13 0 -3
recrdist_by_growthpattern:1
14 0 -3
recrdist_by_area:1
15 0 -3
recrdist_by_seas:1
16 4 -3
cohort_growth_dev:2
17 1 -3
MGparm_env_linkages
MG_parm_blockparms
M-G_parm_devs 1
1_YR1982 0 -

MGParm_Block_Assignments
SR_parms
1 10.7263 1  3 31 10.1121 0 -1 99 1 0
2 0.941285 1  0.2 1 0.8 0 -1 99 2 0
3 0.6 -1
4 0 -1
5 -0.0527826 1  -5 5 0 0 -1 99 3 0
6 0 -1
Recr_Devs
1982 0.379281 - - - - - - - 4
1983 0.735238 - - - - - - - 5
```

```
1984 0.1173 - - - - - - - 6
1985 0.435202 - - - - - - - 7
1986 0.535303 - - - - - - - 8
1987 0.241006 - - - - - - - 9
1988 -1.05693 - - - - - - - 10
1989 -0.0828879 - - - - - - - - 11
1990 0.13574 - - - - - - - 12
1991 -0.0155899 - - - - - - - 13
1992 0.188584 - - - - - - - 14
1993 0.0376144 - - - - - - - 15
1994 0.0357273 - - - - - - - 16
1995 0.219397 - - - - - - - 17
1996 -0.159491 - - - - - - - 18
1997 -0.167965 - - - - - - - 19
1998 -0.132378 - - - - - - - 20
1999 -0.402027 - - - - - - - 21
2000 -0.178327 - - - - - - - 22
2001 -0.0985194 - - - - - - - 23
2002 0.0246805 - - - - - - - 24
2003 -0.299759 - - - - - - - 25
2004 0.177235 - - - - - - - 26
2005 -0.381848 - - - - - - - 27
2006 -0.286584 - - - - - - - 28
init_F_parms
1 1.69633 1 0 2 1 1 -1 10 29 0
2 0 -1
3 0 -1
4 0 -1
5 0 -1
6 0 -1
Q_parms
sel_parms
#_size_sel:_1
#_male
#_size_sel:_2
#_male
#_size_sel:_3
#_male
#_size_sel:_4
#_male
#_size_sel:_5
#_male
#_size_sel:_6
#_male
#_size_sel:_7
#_male
#_size_sel:_8
#_male
#_size_sel:_9
#_male
#_size_sel:_10
#_male
#_size_sel:_11
#_male
#_size_sel:_12
#_male
#_size_sel:_13
```

```
#_male
#_size_sel:_14
#_male
#_size_sel:_15
#_male
#_size_sel:_16
#_male
#_size_sel:_17
#_male
#_size_sel:_18
#_male
#_size_sel:_19
#_male
#_age_sel:_1
1 1.97374 2 0.5 9 4 4 -1 99 30 0
2 -3 -3
3 5.3772e-009 3 0 9 2 2 -1 99 31 0 LO
4 9 -3
5 -999 -2
6 -999 -2
#_male
#_age_sel:_2
7 3.10267 2 0.5 9 4 4 -1 99 32 0
8 -3 -3
9 0.695128 3 0 9 2 2 -1 99 33 0
10 9 -3
11 -999 -2
12 -999 -2
#_male
#_age_sel:_3
13 1.02044 2 0.5 9 4 4 -1 99 34 0
14 2.99968 3 -9 3 -3 -3 -1 99 35 0 HI
15 5.34279e-008 3 0 9 2 2 -1 99 36 0 LO
16 8.92362 3 0 9 9 9 -1 99 37 0 HI
17 -999 -2
18 -9.31547 3 -10 10 0 5 -1 99 38 0
#_male
#_age_sel:_4
19 2.07057 2 0.5 9 4 4 -1 99 39 0
20 -8.99997 3 -9 3 -3 -3 -1 99 40 0 LO
21 0.433328 3 0 9 2 2 -1 99 41 0
22 3.14884e-007 3 0 9 9 9 -1 99 42 0 LO
23 -999 -2
24 -9.99843 3 -10 10 0 5 -1 99 43 0 LO
#_male
#_age_sel:_5
25 1.75411 2 0.5 9 4 4 -1 99 44 0
26 -3 -3
27 1.0821e-008 3 0 9 2 2 -1 99 45 0 LO
28 9 -3
29 -999 -2
30 -999 -2
#_male
#_age_sel:_6
31 1.61042 2 0.5 9 4 4 -1 99 46 0
32 -9 3 -9 3 -3 -3 -1 99 47 0 LO
33 2.06662e-008 3 0 9 2 2 -1 99 48 0 LO
```

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34 1.21969e-007 3 0 9 9 9 -1 99 49 0 LO
35 -999 -2
36 -9.99952 3 -10 10 0 5 -1 99 50 0 LO
#_male
#_age_sel:_7
37 2.62984 2 0.5 9 4 4 -1 99 51 0
38 -3 -3
39 0.799193 3 0 9 2 2 -1 99 52 0
40 9 -3
41 -999 -2
42 -999 -2
#_male
#_age_sel:_8
43 2.63079 2 0.5 9 4 4 -1 99 53 0
44 -3 -3
45 0.813735 3 0 9 2 2 -1 99 54 0
46 9 -3
47 -999 -2
48 -999 -2
#_male
#_age_sel:_9
49 1.00677 2 0.5 9 4 4 -1 99 55 0
50 -3 -3
51 2.3011e-007 3 0 9 2 2 -1 99 56 0 LO
52 9 -3
53 -999 -2
54 -999 -2
#_male
#_age_sel:_10
55 2.57629 2 0.5 9 4 4 -1 99 57 0
56 -3 -3
57 4.2168e-009 3 0 9 2 2 -1 99 58 0 LO
58 9 -3
59 -999 -2
60 -999 -2
#_male
#_age_sel:_11
61 2.39289 2 0.5 9 4 4 -1 99 59 0
62 -3 -3
63 9.51338e-010 3 0 9 2 2 -1 99 60 0 LO
64 9 -3
65 -999 -2
66 -999 -2
#_male
#_age_sel:_12
67 2.63304 2 0.5 9 4 4 -1 99 61 0
68 -3 -3
69 1.35641e-008 3 0 9 2 2 -1 99 62 0 LO
70 9 -3
71 -999 -2
72 -999 -2
#_male
#_age_sel:_13
73 1.55873 2 0.5 9 4 4 -1 99 63 0
74 -3 -3
75 4.80854e-009 3 0 9 2 2 -1 99 64 0 LO
76 9 -3
```

```
77 -999 -2
78 -999 -2
#_male
#_age_sel:_14
79 2.37479 2 0.5 9 4 4 -1 99 65 0
80 -3 -3
81 8.68399e-010 3 0 9 2 2 -1 99 66 0 LO
82 9 -3
83 -999 -2
84 -999 -2
#_male
#_age_sel:_15
85 2.23303 2 0.5 9 4 4 -1 99 67 0
86 -3 -3
87 0.656754 3 0 9 2 2 -1 99 68 0
88 9 -3
89 -999 -2
90 -999 -2
#_male
#_age_sel:_16
91 0.999921 2 0.5 9 4 4 -1 99 69 0
92 -3 -3
93 0.206175 3 0 9 2 2 -1 99 70 0
94 9 -3
95 -999 -2
96 -999 -2
#_male
#_age_sel:_17
97 0 -3
98 0 -3
#_male
#_age_sel:_18
99 0 -3
100 0 -3
#_male
#_age_sel:_19
101 0 -3
102 0 -3
#_male
sel_parm_env_linkages
sel_parm_blockparms
103 2.65148 2 0.5 9 4 4 -1 99 71 0
104 0.0988482 3 0 9 2 2 -1 99 72 0
105 3.38705 2 0.5 9 4 4 -1 99 73 0
106 0.463316 3 0 9 2 2 -1 99 74 0
107 1.96104 2 0.5 9 4 4 -1 99 75 0
108 0.270113 3 0 9 2 2 -1 99 76 0
109 8.60703 3 0 9 9 9 -1 99 77 0
110 -9.92206 3 -10 10 0 5 -1 99 78 0 LO
111 2.18987 2 0.5 9 4 4 -1 99 79 0
112 6.69745e-008 3 0 9 2 2 -1 99 80 0 LO
113 1.68701e-007 3 0 9 9 9 -1 99 81 0 LO
114 1.10433 3 -10 10 0 5 -1 99 82 0
115 2.86846 2 0.5 9 4 4 -1 99 83 0
116 0.407388 3 0 9 2 2 -1 99 84 0
117 1.60548 2 0.5 9 4 4 -1 99 85 0
118 3.58325e-009 3 0 9 2 2 -1 99 86 0 LO
```

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119 1.68123e-008 3 0 9 9 9 -1 99 87 0 LO
120 -5.64085 3 -10 10 0 5 -1 99 88 0
SEL_parm_devs
1_YR1982 0
Forecast_Recr_Devs
2007 0 - - - - - - - 89

Selex_Block_Assignments Years:
Base_parm#  1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994
1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006
1  0 0 0 0 0 0 0 0 0 0 0 0 0 103 103 103 103 103 103 103 103 103 103 103 103
3  0 0 0 0 0 0 0 0 0 0 0 0 0 104 104 104 104 104 104 104 104 104 104 104 104
7  0 0 0 0 0 0 0 0 0 0 0 0 0 105 105 105 105 105 105 105 105 105 105 105 105
9  0 0 0 0 0 0 0 0 0 0 0 0 0 106 106 106 106 106 106 106 106 106 106 106 106
13  0 0 0 0 0 0 0 0 0 0 0 0 0 107 107 107 107 107 107 107 107 107 107 107 107
15  0 0 0 0 0 0 0 0 0 0 0 0 0 108 108 108 108 108 108 108 108 108 108 108 108
16  0 0 0 0 0 0 0 0 0 0 0 0 0 109 109 109 109 109 109 109 109 109 109 109 109
18  0 0 0 0 0 0 0 0 0 0 0 0 0 110 110 110 110 110 110 110 110 110 110 110 110
19  0 0 0 0 0 0 0 0 0 0 0 0 0 111 111 111 111 111 111 111 111 111 111 111 111
21  0 0 0 0 0 0 0 0 0 0 0 0 0 112 112 112 112 112 112 112 112 112 112 112 112
22  0 0 0 0 0 0 0 0 0 0 0 0 0 113 113 113 113 113 113 113 113 113 113 113 113
24  0 0 0 0 0 0 0 0 0 0 0 0 0 114 114 114 114 114 114 114 114 114 114 114 114
25  0 0 0 0 0 0 0 0 0 0 0 0 0 115 115 115 115 115 115 115 115 115 115 115 115
27  0 0 0 0 0 0 0 0 0 0 0 0 0 116 116 116 116 116 116 116 116 116 116 116 116
31  0 0 0 0 0 0 0 0 0 0 0 0 0 117 117 117 117 117 117 117 117 117 117 117 117
33  0 0 0 0 0 0 0 0 0 0 0 0 0 118 118 118 118 118 118 118 118 118 118 118 118
34  0 0 0 0 0 0 0 0 0 0 0 0 0 119 119 119 119 119 119 119 119 119 119 119 119
36  0 0 0 0 0 0 0 0 0 0 0 0 0 120 120 120 120 120 120 120 120 120 120 120 120

RECR_DIST
G_pattern gender Seas Area Value Used?
1 1 1 1 1 1

MOVEMENT
Seas Source Dist  0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

SUBMORPHDIST 1

MGparm_By_Year_after_adjustments
Year
1982  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1983  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1984  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1985  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1986  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1987  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1988  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1989  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1990  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1991  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1992  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1993  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1994  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1995  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1996  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1997  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
1998  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
```

```
1999  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
2000  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
2001  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
2002  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
2003  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
2004  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
2005  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1
2006  0.2 0 28.1 60.2 0.2052 0.1 0 2.44e-006 3.34694 28.1 -0.25 1 0 0 0 4 1

SELparm(Size)_By_Year_after_adjustments
Fleet/Svy Year

SELparm(Age)_By_Year_after_adjustments
Fleet/Svy Year
1 1982  1.97374 -3 5.3772e-009 9 -999 -999
1 1995  2.65148 -3 0.0988482 9 -999 -999
2 1982  3.10267 -3 0.695128 9 -999 -999
2 1995  3.38705 -3 0.463316 9 -999 -999
3 1982  1.02044 2.99968 5.34279e-008 8.92362 -999 -9.31547
3 1995  1.96104 2.99968 0.270113 8.60703 -999 -9.92206
4 1982  2.07057 -8.99997 0.433328 3.14884e-007 -999 -9.99843
4 1995  2.18987 -8.99997 6.69745e-008 1.68701e-007 -999 1.10433
5 1982  1.75411 -3 1.0821e-008 9 -999 -999
5 1995  2.86846 -3 0.407388 9 -999 -999
6 1982  1.61042 -9 2.06662e-008 1.21969e-007 -999 -9.99952
6 1995  1.60548 -9 3.58325e-009 1.68123e-008 -999 -5.64085
7 1982  2.62984 -3 0.799193 9 -999 -999
8 1982  2.63079 -3 0.813735 9 -999 -999
9 1982  1.00677 -3 2.3011e-007 9 -999 -999
10 1982  2.57629 -3 4.2168e-009 9 -999 -999
11 1982  2.39289 -3 9.51338e-010 9 -999 -999
12 1982  2.63304 -3 1.35641e-008 9 -999 -999
13 1982  1.55873 -3 4.80854e-009 9 -999 -999
14 1982  2.37479 -3 8.68399e-010 9 -999 -999
15 1982  2.23303 -3 0.656754 9 -999 -999
16 1982  0.999921 -3 0.206175 9 -999 -999
17 1982  0 0
18 1982  0 0
19 1982  0 0

EXPLOITATION   Hrate_is_Continuous_F  Fleet_in_columns;_year_in_rows
yr seas 1 2 3 4 5 6
init_yr 1  1.69633 0 0 0 0 0
1982 1  0.696923 0.520672 0 0 0.651114 0.0215592
1983 1  0.848389 0.517252 0 0 0.0885099 0.0241223
1984 1  0.817659 0.813321 0 0 0.505292 0.0228049
1985 1  0.829448 0.570227 0 0 0.38806 0.00596932
1986 1  0.902398 0.481583 0 0 0.643524 0.0420524
1987 1  0.87767 0.423746 0 0 0.40364 0.0348759
1988 1  1.09054 0.559255 0 0 0.54739 0.0267095
1989 1  0.860061 0.456393 0.072753 0 0.190601 0.00596043
1990 1  0.500825 0.366903 0.112288 0 0.331257 0.0323731
1991 1  0.634453 0.432054 0.0850217 0 0.426588 0.0492399
1992 1  0.923679 0.316181 0.0563009 0 0.400297 0.0396348
1993 1  0.600873 0.349938 0.0630537 0 0.456399 0.0955669
1994 1  0.593916 0.372075 0.0316709 0.0540191 0.436667 0.0675514
1995 1  1.03891 0.818268 0.0149126 0.0249021 0.555775 0.0706187
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```
1996 1  0.626286 0.589045 0.0277906 0.0110119 0.746611 0.0466988
1997 1  0.329654 0.116107 0.0139905 0.00589162 0.583565 0.030762
1998 1  0.289486 0.149022 0.0130693 0.00803391 0.464551 0.0381168
1999 1  0.229564 0.113352 0.0530287 0.0190647 0.254777 0.0348294
2000 1  0.20546 0.117052 0.0251532 0.00648873 0.454832 0.0476486
2001 1  0.212397 0.0927343 0.00969099 0.0117605 0.312372 0.0647091
2002 1  0.241676 0.123545 0.0113368 0.00616481 0.190803 0.0351759
2003 1  0.20731 0.0896376 0.0140383 0.00305609 0.233258 0.0339814
2004 1  0.220803 0.102171 0.00480198 0.00238279 0.181646 0.0380037
2005 1  0.199172 0.0740993 0.00392251 0.00232279 0.159754 0.0341463
2006 1  0.121588 0.0609425 0.0047057 0.00185252 0.139819 0.0255747
2007 1  0.0544083 0.0272707 0.00210571 0.000828969 0.0625663 0.0114442

TIME_SERIES    Bio-Smry_age:_1  Hrate_is_Continuous_F
pop year period season bio-all bio-smry SpawnBio recruit-0  enc_catch:_1
dead_catch:_1 ret_catch:_1 obs_cat:_1 Hrate-1 enc_catch:_2 dead_catch:_2
ret_catch:_2 obs_cat:_2 Hrate-2 enc_catch:_3 dead_catch:_3 ret_catch:_3
obs_cat:_3 Hrate-3 enc_catch:_4 dead_catch:_4 ret_catch:_4 obs_cat:_4 Hrate-4
enc_catch:_5 dead_catch:_5 ret_catch:_5 obs_cat:_5 Hrate-5 enc_catch:_6
dead_catch:_6 ret_catch:_6 obs_cat:_6 Hrate-6 SPB_vir_LH
1 1980 VIRG 1 364568 364258 362975 45538.3 0 0 0 0 0  0 0 0 0 0  0 0 0 0 0  0
0 0 0 0  0 0 0 0 0  0 0 0 0 0  362998
1 1981 INIT 1 22218.4 21924 20939.8 43197 18393.4 18393.4 18393.4 10000
1.69633 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 20939.8
1 1982 TIME 1 22225.9 21924 20939.8 44297.1 7487.62 7487.62 7487.62 7536
0.696923 2842.42 2842.42 2842.42 2864 0.520672 0 0 0 0 0 0 0 0 0 0 8274.41
8274.41 8274.41 8267 0.651114 296.102 296.102 296.102 296 0.0215592 20942.7
1 1983 TIME 1 21981.5 21552.7 20457.2 62916.4 10244.7 10244.7 10244.7 10201
0.848389 3178.31 3178.31 3178.31 3201 0.517252 0 0 0 0 0 0 0 0 0 0 1270.16
1270.16 1270.16 1268 0.0885099 376.339 376.339 376.339 376 0.0241223 20620.1
1 1984 TIME 1 30300 30053.6 28486.6 36151.1 11409 11409 11409 11455 0.817659
5646.89 5646.89 5646.89 5674 0.813321 0 0 0 0 0 0 0 0 0 0 8449.2 8449.2
8449.2 8512 0.505292 414.88 414.88 414.88 415 0.0228049 28580.2
1 1985 TIME 1 24233.9 23908.6 22902.2 47725.9 10630.9 10630.9 10630.9 10767
0.829448 3879.77 3879.77 3879.77 3907 0.570227 0 0 0 0 0 0 0 0 0 0 5645.71
5645.71 5645.71 5665 0.38806 92.0003 92.0003 92.0003 92 0.00596932 23025.8
1 1986 TIME 1 23502.6 23146.1 21983.1 52311.7 9551 9551 9551 9500 0.902398
2685.02 2685.02 2685.02 2687 0.481583 0 0 0 0 0 0 0 0 0 0 8165.61 8165.61
8165.61 8102 0.643524 578.422 578.422 578.422 578 0.0420524 22118.6
1 1987 TIME 1 23165 22900.3 21641.1 38847.8 9958.8 9958.8 9958.8 9945 0.87767
2318.16 2318.16 2318.16 2326 0.423746 0 0 0 0 0 0 0 0 0 0 5525.24 5525.24
5525.24 5519 0.40364 522.148 522.148 522.148 522 0.0348759 21741.8
1 1988 TIME 1 22870.9 22798.5 21764.2 10621.7 11374 11374 11374 11616 1.09054
3025.39 3025.39 3025.39 3071 0.559255 0 0 0 0 0 0 0 0 0 0 6566.64 6566.64
6566.64 6634 0.54739 340.946 340.946 340.946 341 0.0267095 21791.7
1 1989 TIME 1 11840.9 11680.2 11322.3 23587 5937.23 5937.23 5937.23 6218
0.860061 1870.08 1870.08 1870.08 1908 0.456393 706.675 706.675 706.675 709
0.072753 0 0 0 0 0 1420.73 1420.73 1420.73 1435 0.190601 44.9895 44.9895
44.9895 45 0.00596043 11383.4
1 1990 TIME 1 10872.7 10680.2 10143 28244.9 2874.63 2874.63 2874.63 2962
0.500825 1223.39 1223.39 1223.39 1237 0.366903 1202.58 1202.58 1202.58 1214
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233.481 234 0.0323731 10216.1
1 1991 TIME 1 13738.1 13558.9 12874.7 26297 4444.85 4444.85 4444.85 4629
0.634453 1559.88 1559.88 1559.88 1595 0.432054 1048.74 1048.74 1048.74 1052
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344.327 344 0.0396348 13193.2
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0.600873 1315.19 1315.19 1315.19 1313 0.349938 846.109 846.109 846.109 846
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910.873 910 0.0955669 13741
1 1994 TIME 1 15312.6 15117.6 14405.9 28620.9 4831.99 4831.99 4831.99 4969
0.593916 1602.32 1602.32 1602.32 1620 0.372075 432.968 432.968 432.968 434
0.0316709 470.805 470.805 470.805 472 0.0540191 4115.93 4115.93 4115.93 4231
0.436667 675.127 675.127 675.127 678 0.0675514 14480
1 1995 TIME 1 15441.5 15206.7 14493.8 34451 4618.35 4618.35 4618.35 4911
1.03891 1989.27 1989.27 1989.27 2066 0.818268 137.946 137.946 137.946 138
0.0149126 169.778 169.778 169.778 170 0.0249021 2377.31 2377.31 2377.31 2450
0.555775 752.71 752.71 752.71 752 0.0706187 14583.1
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0.0277906 108.079 108.079 108.079 108 0.0110119 4482.93 4482.93 4482.93 4454
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86.1012 86.1012 86.1012 86 0.00589162 5730.52 5730.52 5730.52 5382 0.583565
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0.289486 1362.49 1362.49 1362.49 1346 0.149022 254.369 254.369 254.369 254
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0.464551 737.042 737.042 737.042 734 0.0381168 24438.7
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0.0251532 134.069 134.069 134.069 134 0.00648873 7742.29 7742.29 7742.29 7470
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0.312372 1276.56 1276.56 1276.56 1274 0.0647091 28730.9
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0.241676 1855.63 1855.63 1855.63 1850 0.123545 307.362 307.362 307.362 307
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795.14 795 0.0255747 48379.7
1 2007 FORE 1 53899 53614.6 52970.8 41729.8 2447.68 2447.68 2447.68 2447.68
0.0544083 1063.17 1063.17 1063.17 1063.17 0.0272707 109.781 109.781 109.781
109.781 0.00210571 37.6537 37.6537 37.6537 37.6537 0.000828969 2773.31
2773.31 2773.31 2773.31 0.0625663 374.512 374.512 374.512 374.512 0.0114442
52970.8

SPR_series  uses_R0= 45538.3   ###note_Y/R_unit_is_Dead_Biomass
Year Bio_all Bio_Smry SPBzero SPBfished SPBfished/R SPR Y/R GenTime Actual:
Bio_all Bio_Smry Enc_Catch Dead_Catch Retain_Catch SPB Recruits Tot_Exploit
More_F(by_morph):  aveF-1 maxF-1
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22225.9 21924 18900.6 18900.6 18900.6 20939.8 44297.1 0.850384 +  1.77013
1.88487
1983 28903.3 28592.9  362975 27503.9 0.603974 0.0757737 0.457077 0.195501 +
21981.5 21552.7 15069.5 15069.5 15069.5 20457.2 62916.4 0.685554 +  1.36853
1.47254
1984 22037.6 21727.3  362975 20714.8 0.454888 0.0570696 0.416716 0.0998648 +
30300 30053.6 25920 25920 25920 28486.6 36151.1 0.855446 +  2.01001  2.15218
1985 24377.7 24067.4  362975 23026.6 0.505654 0.0634386 0.430905 0.140805 +
24233.9 23908.6 20248.4 20248.4 20248.4 22902.2 47725.9 0.835542 +  1.6846
1.79026
1986 20866 20555.6  362975 19565.6 0.429653 0.0539036 0.407294 0.111259 +
23502.6 23146.1 20980.1 20980.1 20980.1 21983.1 52311.7 0.89267 +  1.92717
2.06148
1987 23909.1 23598.7  362975 22567.1 0.495562 0.0621725 0.426955 0.152803 +
23165 22900.3 18324.4 18324.4 18324.4 21641.1 38847.8 0.791036 +  1.61809
1.73312
1988 20463 20152.6  362975 19164 0.420833 0.0527971 0.405597 0.0941261 +
22870.9 22798.5 21306.9 21306.9 21306.9 21764.2 10621.7 0.931618 +  2.08152
2.2176
1989 25369.9 25059.6  362975 24029.6 0.527679 0.0662018 0.432925 0.185625 +
11840.9 11680.2 9979.7 9979.7 9979.7 11322.3 23587 0.842814 +  1.48775
1.58284
1990 26672 26361.7  362975 25345.8 0.556582 0.0698279 0.434153 0.251431 +
10872.7 10680.2 7811.03 7811.03 7811.03 10143 28244.9 0.718409 +  1.24128
1.33745
1991 23613.7 23303.4  362975 22305.3 0.489815 0.0614514 0.419944 0.188231 +
13738.1 13558.9 11007.2 11007.2 11007.2 12874.7 26297 0.801216 +  1.49757
1.61851
1992 22521.6 22211.3  362975 21214 0.46585 0.0584449 0.415346 0.162926 +
13982.4 13761.4 11877.8 11877.8 11877.8 13109.2 32432.6 0.849486 +  1.61466
1.72911
1993 23834.8 23524.5  362975 22522.5 0.494585 0.0620499 0.42095 0.204881 +
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1.55091
1994 24677.3 24367  362975 23346.1 0.51267 0.0643189 0.427584 0.205787 +
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2.0062
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21908.1 10753.4 10753.4 10753.4 21128 25677 0.486952 +  0.956848  1.0644
1998 50408.2 50097.9  362975 48885.5 1.0735 0.13468 0.551037 0.333938 +
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0.942859
1999 60268.8 59958.5  362975 58745.1 1.29002 0.161844 0.562568 0.44757 +
27486.3 27341.5 11038.7 11038.7 11038.7 26554.1 21247.3 0.401608 +  0.609689
0.689104
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0.838785
2001 60881.4 60571.1  362975 59358.3 1.30348 0.163533 0.561983 0.441292 +
29599 29400.3 12140.5 12140.5 12140.5 28655.3 29162.3 0.410166 +  0.589219
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0.461642
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0.34517
2007 173958 173647  362975 172397 3.78577 0.474957 0.487189 0.709693 +  53899
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Virg 362975 45538.3 45538.3 38036.8 45538.3
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2007 52970.8 41729.8 41729.8 41729.8 41729.8 0 forecast

N_est r.m.s.e.
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18 2000 26996.8 9.874 7.22986 0.000267804 0.4 0.311685 0.303586 -0.612705
18 2001 29162.3 13.543 7.80979 0.000267804 0.4 0.550492 0.947003 0.0307125
18 2002 33483.4 5.406 8.96699 0.000267804 0.4 -0.50604 0.80024 -0.11605
18 2003 24764.3 8.18 6.63197 0.000267804 0.4 0.20979 0.137538 -0.778753
18 2004 40333.2 6.993 10.8014 0.000267804 0.4 -0.434766 0.590692 -0.325599
18 2005 23368.8 2.198 6.25826 0.000267804 0.4 -1.04635 3.42143 2.50514
18 2006 25925.7 9.658 6.94301 0.000267804 0.4 0.330051 0.340418 -0.575873
19 1986 52311.7 0.32 0.313775 5.99819e-006 0.4 0.0196445 0.00120595 -0.915085
19 1987 38847.8 0.26 0.233016 5.99819e-006 0.4 0.109573 0.0375193 -0.878771
19 1988 10621.7 0.01 0.063711 5.99819e-006 0.4 -1.85177 10.7158 9.79952
19 1989 23587 0.14 0.14148 5.99819e-006 0.4 -0.0105125 0.000345351 -0.915945
19 1990 28244.9 0.36 0.169418 5.99819e-006 0.4 0.753735 1.77537 0.859075
19 1991 26297 0.38 0.157734 5.99819e-006 0.4 0.87926 2.41593 1.49964
19 1992 32432.6 0.37 0.194537 5.99819e-006 0.4 0.642881 1.29155 0.375258
19 1993 28239.9 0.05 0.169388 5.99819e-006 0.4 -1.22017 4.65254 3.73625
19 1994 28620.9 0.57 0.171673 5.99819e-006 0.4 1.20004 4.50032 3.58403
19 1995 34451 0.3 0.206644 5.99819e-006 0.4 0.372787 0.434282 -0.482009
19 1996 25144.7 0.08 0.150823 5.99819e-006 0.4 -0.63408 1.25643 0.340137
19 1997 25677 0.22 0.154015 5.99819e-006 0.4 0.356576 0.397333 -0.518958
19 1998 27386.1 0.39 0.164267 5.99819e-006 0.4 0.864653 2.33633 1.42004
19 1999 21247.3 0.35 0.127446 5.99819e-006 0.4 1.01024 3.18935 2.27306
19 2000 26996.8 0.21 0.161932 5.99819e-006 0.4 0.259931 0.211138 -0.705153
19 2001 29162.3 0.14 0.174921 5.99819e-006 0.4 -0.222692 0.154975 -0.761316
19 2002 33483.4 0.13 0.20084 5.99819e-006 0.4 -0.434972 0.591252 -0.325038
19 2003 24764.3 0.21 0.148541 5.99819e-006 0.4 0.346249 0.374651 -0.541639
19 2004 40333.2 0.27 0.241926 5.99819e-006 0.4 0.10979 0.0376681 -0.878623
19 2005 23368.8 0.01 0.14017 5.99819e-006 0.4 -2.64027 21.7845 20.8682
19 2006 25925.7 0.17 0.155507 5.99819e-006 0.4 0.0891063 0.0248123 -0.891478

INDEX_1
Index Do_Power Power Do_Env_var Env_Link Do_ExtraVar Qtype  Q Num=0/Bio=1
Err_type N Npos r.m.s.e. mean_input_SE mean_(Input+extra)_SE pen_mean_Qdev
rmse_Qdev
1 0  1.0 0  0.00  0.0 0  --  1 0 0 0 0 0 0 0 0
2 0  1.0 0  0.00  0.0 0  --  1 0 0 0 0 0 0 0 0
3 0  1.0 0  0.00  0.0 0  --  1 0 0 0 0 0 0 0 0
4 0  1.0 0  0.00  0.0 0  --  1 0 0 0 0 0 0 0 0
5 0  1.0 0  0.00  0.0 0  --  1 0 0 0 0 0 0 0 0
6 0  1.0 0  0.00  0.0 0  --  1 0 0 0 0 0 0 0 0
7 0  1.0 0  0.00  0.0 0 0.000540955  0 0 15 15 0.420682 0.16 0.16 0 0
8 0  1.0 0  0.00  0.0 0 5.29245e-005  0 0 25 25 0.406955 0.21 0.21 0 0
9 0  1.0 0  0.00  0.0 0 3.57563e-005  0 0 25 25 0.454752 0.31 0.31 0 0
10 0  1.0 0  0.00  0.0 0 5.08453e-005  0 0 25 25 0.779939 0.21 0.21 0 0
11 0  1.0 0  0.00  0.0 0 3.51898e-005  0 0 25 25 0.956204 0.21 0.21 0 0
12 0  1.0 0  0.00  0.0 0 2.2917e-005  0 0 23 23 0.728863 0.4 0.4 0 0
13 0  1.0 0  0.00  0.0 0 3.57884e-005  0 0 23 23 0.622706 0.4 0.4 0 0
14 0  1.0 0  0.00  0.0 0 2.45492e-005  0 0 25 25 0.873332 0.4 0.4 0 0
15 0  1.0 0  0.00  0.0 0 2.12204e-005  0 0 17 17 0.846791 0.4 0.4 0 0
```

```
16 0  1.0 0  0.00  0.0 0 0.000128238  0 0 19 19 0.452521 0.4 0.4 0 0
17 0  1.0 0  0.00  0.0 0 3.1622e-005  0 0 25 25 0.594813 0.4 0.4 0 0
18 0  1.0 0  0.00  0.0 0 0.000267804  0 0 25 25 0.611653 0.4 0.4 0 0
19 0  1.0 0  0.00  0.0 0 5.99819e-006  0 0 21 21 0.925271 0.4 0.4 0 0
rmse_Qdev_not_in_logL
pen_mean_Qdev_not_in_logL_in_randwalk_approach

INDEX_3
Index  Q_parm_assignments
1 0 -- 0 --  0 0
2 0 -- 0 --  0 0
3 0 -- 0 --  0 0
4 0 -- 0 --  0 0
5 0 -- 0 --  0 0
6 0 -- 0 --  0 0
7 0 -- 0 --  0 0
8 0 -- 0 --  0 0
9 0 -- 0 --  0 0
10 0 -- 0 --  0 0
11 0 -- 0 --  0 0
12 0 -- 0 --  0 0
13 0 -- 0 --  0 0
14 0 -- 0 --  0 0
15 0 -- 0 --  0 0
16 0 -- 0 --  0 0
17 0 -- 0 --  0 0
18 0 -- 0 --  0 0
19 0 -- 0 --  0 0

DISCARD  log(L)_based_on_T-distribution_with_DF=_30
as_fraction
index year seas obs exp cv Dev Like Like+log(s)


MEAN_BODY_WT log(L)_based_on_T-distribution_with_DF=_30
 year seas index Mkt obs exp cv Dev Like Like+log(s)
 1982 1 1 0 0.504 0.612363 0.1 -0.108363 2.22137 2.22137
 1983 1 1 0 0.521 0.610247 0.1 -0.0892473 1.44645 1.44645
 1984 1 1 0 0.518 0.599941 0.1 -0.0819413 1.24178 1.24178
 1985 1 1 0 0.575 0.655972 0.1 -0.0809724 0.992146 0.992146
 1986 1 1 0 0.613 0.602498 0.1 0.010502 0.0151573 0.0151573
 1987 1 1 0 0.581 0.592906 0.1 -0.0119064 0.0216828 0.0216828
 1988 1 1 0 0.588 0.64301 0.1 -0.05501 0.445738 0.445738
 1989 1 1 0 0.668 0.735088 0.1 -0.0670882 0.512566 0.512566
 1990 1 1 0 0.54 0.63509 0.1 -0.0950898 1.5246 1.5246
 1991 1 1 0 0.537 0.624971 0.1 -0.0879709 1.32801 1.32801
 1992 1 1 0 0.595 0.629074 0.1 -0.0340744 0.168527 0.168527
 1993 1 1 0 0.571 0.609911 0.1 -0.0389107 0.238088 0.238088
 1994 1 1 0 0.605 0.643092 0.1 -0.038092 0.203476 0.203476
 1995 1 1 0 0.675 0.758197 0.1 -0.0831971 0.765681 0.765681
 1996 1 1 0 0.621 0.755434 0.1 -0.134434 2.24981 2.24981
 1997 1 1 0 0.697 0.840488 0.1 -0.143488 2.04817 2.04817
 1998 1 1 0 0.759 0.945693 0.1 -0.186693 2.84759 2.84759
 1999 1 1 0 0.755 0.996752 0.1 -0.241752 4.55675 4.55675
 2000 1 1 0 0.85 1.04868 0.1 -0.198685 2.59336 2.59336
 2001 1 1 0 0.903 1.09022 0.1 -0.187221 2.07559 2.07559
 2002 1 1 0 0.898 1.08023 0.1 -0.182231 1.99375 1.99375
```

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 2003 1 1 0 0.999 1.09046 0.1 -0.0914585 0.427101 0.427101
 2004 1 1 0 0.983 1.12325 0.1 -0.14025 1.01759 1.01759
 2005 1 1 0 0.949 1.17917 0.1 -0.230173 2.77539 2.77539
 2006 1 1 0 0.947 1.18552 0.1 -0.238523 2.97338 2.97338

FIT_LEN_COMPS
Index Year Seas Gender Mkt Nsamp effN Like

index N Npos mean_effN mean(inputN) HarMean(effN) Mean(effN/inputN)
MeaneffN/MeaninputN
1 0 0 0 0 0 0 -1.#IND
2 0 0 0 0 0 0 -1.#IND
3 0 0 0 0 0 0 -1.#IND
4 0 0 0 0 0 0 -1.#IND
5 0 0 0 0 0 0 -1.#IND
6 0 0 0 0 0 0 -1.#IND
7 0 0 0 0 0 0 -1.#IND
8 0 0 0 0 0 0 -1.#IND
9 0 0 0 0 0 0 -1.#IND
10 0 0 0 0 0 0 -1.#IND
11 0 0 0 0 0 0 -1.#IND
12 0 0 0 0 0 0 -1.#IND
13 0 0 0 0 0 0 -1.#IND
14 0 0 0 0 0 0 -1.#IND
15 0 0 0 0 0 0 -1.#IND
16 0 0 0 0 0 0 -1.#IND
17 0 0 0 0 0 0 -1.#IND
18 0 0 0 0 0 0 -1.#IND
19 0 0 0 0 0 0 -1.#IND

FIT_AGE_COMPS
Index Year Seas Gender Mkt Ageerr Lbin_lo Lbin_hi Nsamp effN Like
1 1982 1 0 0 1 1 70 200 81.2288 10.9277
1 1983 1 0 0 1 1 70 200 18.1541 12.7422
1 1984 1 0 0 1 1 70 200 54.4502 9.94839
1 1985 1 0 0 1 1 70 200 73.3926 5.38873
1 1986 1 0 0 1 1 70 200 17.2752 15.2438
1 1987 1 0 0 1 1 70 200 32.8046 7.88321
1 1988 1 0 0 1 1 70 200 1405 1.92141
1 1989 1 0 0 1 1 70 200 167.564 5.4684
1 1990 1 0 0 1 1 70 200 576.416 0.872547
1 1991 1 0 0 1 1 70 200 52.38 4.20233
1 1992 1 0 0 1 1 70 200 53.1101 9.20428
1 1993 1 0 0 1 1 70 200 144.595 6.31613
1 1994 1 0 0 1 1 70 200 119.826 4.70352
1 1995 1 0 0 1 1 70 200 51.9234 10.1064
1 1996 1 0 0 1 1 70 200 48.1564 8.60539
1 1997 1 0 0 1 1 70 200 13.4072 29.1135
1 1998 1 0 0 1 1 70 200 16.7415 21.6081
1 1999 1 0 0 1 1 70 200 24.2913 19.1481
1 2000 1 0 0 1 1 70 200 438.556 4.00258
1 2001 1 0 0 1 1 70 200 62.9992 7.98905
1 2002 1 0 0 1 1 70 200 79.9802 5.41049
1 2003 1 0 0 1 1 70 200 1422.43 0.431303
1 2004 1 0 0 1 1 70 200 1592.84 0.86772
1 2005 1 0 0 1 1 70 200 32.9787 22.7301
1 2006 1 0 0 1 1 70 200 301.77 2.63987
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2 1982 1 0 0 1 1 70 200 3.8026 68.1553
2 1983 1 0 0 1 1 70 200 5.76288 34.4103
2 1984 1 0 0 1 1 70 200 28.5027 14.5649
2 1985 1 0 0 1 1 70 200 16.4207 15.0521
2 1986 1 0 0 1 1 70 200 39.3618 8.93881
2 1987 1 0 0 1 1 70 200 14.0057 12.9091
2 1988 1 0 0 1 1 70 200 12.4771 16.5247
2 1989 1 0 0 1 1 70 200 17.8017 41.3146
2 1990 1 0 0 1 1 70 200 5.57055 55.7759
2 1991 1 0 0 1 1 70 200 6.52591 34.8442
2 1992 1 0 0 1 1 70 200 3.1446 105.654
2 1993 1 0 0 1 1 70 200 13.3532 11.7807
2 1994 1 0 0 1 1 70 200 11.9292 31.5016
2 1995 1 0 0 1 1 70 200 15.9992 33.7177
2 1996 1 0 0 1 1 70 200 393.471 7.70327
2 1997 1 0 0 1 1 70 200 66.2459 9.10671
2 1998 1 0 0 1 1 70 200 2.77729 112.221
2 1999 1 0 0 1 1 70 200 120.838 8.27681
2 2000 1 0 0 1 1 70 200 31.7068 8.72331
2 2001 1 0 0 1 1 70 200 101.929 3.85757
2 2002 1 0 0 1 1 70 200 40.9014 9.8555
2 2003 1 0 0 1 1 70 200 51.4248 8.25974
2 2004 1 0 0 1 1 70 200 216.189 5.3073
2 2005 1 0 0 1 1 70 200 176.566 6.59189
2 2006 1 0 0 1 1 70 200 109.828 4.67639
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3 1990 1 0 0 1 1 70 200 19.072 19.4039
3 1991 1 0 0 1 1 70 200 21.8015 4.93728
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3 1993 1 0 0 1 1 70 200 55.2122 10.1551
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3 1995 1 0 0 1 1 70 200 9.8161 38.1155
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3 1997 1 0 0 1 1 70 200 35.5644 7.10751
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3 2000 1 0 0 1 1 70 200 23.4723 12.4819
3 2001 1 0 0 1 1 70 200 14.8139 15.1289
3 2002 1 0 0 1 1 70 200 114.63 2.59491
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3 2004 1 0 0 1 1 70 200 71.4402 18.4297
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3 2006 1 0 0 1 1 70 200 439.43 4.84659
4 1994 1 0 0 1 1 70 200 666.009 0.969069
4 1995 1 0 0 1 1 70 200 38.6227 3.13426
4 1996 1 0 0 1 1 70 200 2.95615 41.9267
4 1997 1 0 0 1 1 70 200 434.98 0.767602
4 1998 1 0 0 1 1 70 200 84.1527 2.26935
4 1999 1 0 0 1 1 70 200 42.5553 6.77184
4 2000 1 0 0 1 1 70 200 48.2405 5.42069
4 2001 1 0 0 1 1 70 200 3.75736 50.5105
4 2002 1 0 0 1 1 70 200 141.822 1.8854
4 2003 1 0 0 1 1 70 200 15.62 21.3211
4 2004 1 0 0 1 1 70 200 41.6863 5.86145
4 2005 1 0 0 1 1 70 200 15.2479 19.6928
4 2006 1 0 0 1 1 70 200 38.2419 7.13593
5 1982 1 0 0 1 1 70 200 43.2307 9.58757
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5 1987 1 0 0 1 1 70 200 112.563 6.15826
5 1988 1 0 0 1 1 70 200 797.105 1.69369
5 1989 1 0 0 1 1 70 200 116.98 4.90465
5 1990 1 0 0 1 1 70 200 34.6077 8.71447
5 1991 1 0 0 1 1 70 200 45.2194 12.6433
5 1992 1 0 0 1 1 70 200 37.4275 16.0632
5 1993 1 0 0 1 1 70 200 31.4512 15.287
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10 1989 1 0 0 1 1 70 100 918.89 0.0534227
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11 1992 1 0 0 1 1 70 100 2.56198 48.2351
11 1993 1 0 0 1 1 70 100 16.696 3.72828
11 1994 1 0 0 1 1 70 100 2.765 44.7066
11 1995 1 0 0 1 1 70 100 2.33909 53.4097
11 1996 1 0 0 1 1 70 100 103.459 0.528176
11 1997 1 0 0 1 1 70 100 593.25 0.082214
11 1998 1 0 0 1 1 70 100 70.8331 0.723779
11 1999 1 0 0 1 1 70 100 32.9585 1.57496
11 2000 1 0 0 1 1 70 100 4.17665 13.3418
11 2001 1 0 0 1 1 70 100 4.19091 12.7937
11 2002 1 0 0 1 1 70 100 3.00967 19.5698
11 2003 1 0 0 1 1 70 100 3.69772 15.1233
11 2004 1 0 0 1 1 70 100 1.85329 32.4731
11 2005 1 0 0 1 1 70 100 13.929 3.59318
11 2006 1 0 0 1 1 70 100 2.43052 23.6282
12 1984 1 0 0 1 1 70 100 54.4773 0.993404
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5 2007 1 2007-5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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6 1982 1 1982-6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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6 2007 1 2007-6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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DEADFISH equals_sel*(retain+(1-retain)*discmort)
fleet year gender label  10.5 11.5 12.5 13.5 14.5 15.5 16.5 17.5 18.5 19.5
20.5 21.5 22.5 23.5 24.5 25.5 26.5 27.5 28.5 29.5 30.5 31.5 32.5 33.5 34.5
35.5 36.5 37.5 38.5 39.5 40.5 41.5 42.5 43.5 44.5 45.5 46.5 47.5 48.5 49.5
50.5 51.5 52.5 53.5 54.5 55.5 56.5 57.5 58.5 59.5 60.5 61.5 62.5 63.5 64.5
65.5 66.5 67.5 68.5 69.5 70.5 71.5 72.5 73.5 74.5 75.5 76.5 77.5 78.5 79.5
1 1982 1 1982-1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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6 2007 1 2007-6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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AGE_SELEX
fleet year gender label  0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
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0.983915
1 1994 1 1994-1 0.0203317 0.38748 0.999742 0.999974 0.999972 0.999736
0.999252 0.998521 0.997545 0.996324 0.994858 0.99315 0.9912 0.98901 0.986581
0.983915
1 1995 1 1995-1 0.00171496 0.0845306 0.680925 0.99941 0.999992 0.999917
0.999592 0.999021 0.998203 0.99714 0.995832 0.994281 0.992487 0.990451
0.988176 0.985663
1 2006 1 2006-1 0.00171496 0.0845306 0.680925 0.99941 0.999992 0.999917
0.999592 0.999021 0.998203 0.99714 0.995832 0.994281 0.992487 0.990451
0.988176 0.985663
1 2007 1 2007-1 0.00171496 0.0845306 0.680925 0.99941 0.999992 0.999917
0.999592 0.999021 0.998203 0.99714 0.995832 0.994281 0.992487 0.990451
0.988176 0.985663
2 1982 1 1982-2 0.00819924 0.110116 0.545141 0.995459 0.999974 0.99998
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2 1994 1 1994-2 0.00819924 0.110116 0.545141 0.995459 0.999974 0.99998
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0.989183 0.986772
2 1995 1 1995-2 0.000733328 0.0277331 0.29805 0.910385 0.999895 0.999995
0.999846 0.999447 0.998802 0.997911 0.996774 0.995393 0.993769 0.991903
0.989795 0.987449
2 2006 1 2006-2 0.000733328 0.0277331 0.29805 0.910385 0.999895 0.999995
0.999846 0.999447 0.998802 0.997911 0.996774 0.995393 0.993769 0.991903
0.989795 0.987449
2 2007 1 2007-2 0.000733328 0.0277331 0.29805 0.910385 0.999895 0.999995
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0.989795 0.987449
3 1982 1 1982-3 0.353021 0.999749 0.999967 0.999996 0.999997 0.999998
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3 1995 1 1995-3 0.0531117 0.494146 0.999627 0.999976 0.999996 0.999997
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3 2007 1 2007-3 0.0531117 0.494146 0.999627 0.999976 0.999996 0.999997
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4 1994 1 1994-4 0.0620616 0.475659 0.997452 0.998901 0.422747 0.0243512
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4 1995 1 1995-4 0.00826784 0.24275 0.965991 0.999591 0.88052 0.760519
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4 2006 1 2006-4 0.00826784 0.24275 0.965991 0.999591 0.88052 0.760519
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5 2007 1 2007-5 0.00419129 0.0979857 0.605447 0.99898 0.999986 0.999953
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6 1994 1 1994-6 0.0747662 0.689093 0.999328 0.860711 0.145668 0.00338233
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0.0035373 0.00353729 0.00353729
6 2006 1 2006-6 0.075963 0.693246 0.999339 0.857884 0.146672 0.00678497
0.00354745 0.00353737 0.00353733 0.00353732 0.00353731 0.0035373 0.0035373
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6 2007 1 2007-6 0.075963 0.693246 0.999339 0.857884 0.146672 0.00678497
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7 2006 1 2006-7 0.0445974 0.302843 0.836687 0.999732 0.999994 0.999913
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8 1982 1 1982-8 0.0465421 0.307688 0.838398 0.999735 0.999994 0.999913
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9 1982 1 1982-9 0.362942 0.999976 0.999971 0.99998 0.999763 0.999299 0.998588
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9 2006 1 2006-9 0.362942 0.999976 0.999971 0.99998 0.999763 0.999299 0.998588
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10 1982 1 1982-10 0.00131115 0.0833559 0.717597 0.999574 0.999993 0.999902
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0.987579 0.985007
12 1982 1 1982-12 0.00097569 0.0694773 0.669969 0.999416 0.999992 0.999913
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12 2006 1 2006-12 0.00097569 0.0694773 0.669969 0.999416 0.999992 0.999913
0.999584 0.999009 0.998187 0.997119 0.995807 0.994251 0.992453 0.990413
0.988134 0.985616
13 1982 1 1982-13 0.0880745 0.73206 0.999613 0.999993 0.999908 0.999574
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0.985555 0.982796
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0.987203 0.984595
15 2006 1 2006-15 0.0753511 0.454602 0.972856 0.999955 0.999992 0.999817
0.999394 0.998724 0.997809 0.996648 0.995243 0.993595 0.991704 0.989573
0.987203 0.984595
16 1982 1 1982-16 0.443301 1 0.999975 0.99998 0.999761 0.999295 0.998582
0.997624 0.99642 0.994973 0.993282 0.991349 0.989176 0.986764 0.984115
0.981231
16 2006 1 2006-16 0.443301 1 0.999975 0.99998 0.999761 0.999295 0.998582
0.997624 0.99642 0.994973 0.993282 0.991349 0.989176 0.986764 0.984115
0.981231
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17 2006 1 2006-17 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
18 1982 1 1982-18 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
18 2006 1 2006-18 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
19 1982 1 1982-19 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
19 2006 1 2006-19 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

AGE_SELEX_from_size_selex_in_endyear
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2 2006 1 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
3 2006 1 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
4 2006 1 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
5 2006 1 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
6 2006 1 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
7 2006 1 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
8 2006 1 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
9 2006 1 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
10 2006 1 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
11 2006 1 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
12 2006 1 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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14 2006 1 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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16 2006 1 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
17 2006 1 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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19 2006 1 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

AGE_SELEX_mortality_in_endyear
fleet year morph season label 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
1 2006 1 1 sel*wt  0.000307115 0.0376789 0.549828 1.22382 1.66059 2.08799
2.48742 2.84605 3.15612 3.41532 3.62629 3.79461 3.92695 4.02974 4.10865
4.16834
1 2006 1 1 sel*ret*wt  0.000307115 0.0376789 0.549828 1.22382 1.66059 2.08799
2.48742 2.84605 3.15612 3.41532 3.62629 3.79461 3.92695 4.02974 4.10865
4.16834
1 2006 1 1 sel_nums  0.00171496 0.0845306 0.680925 0.99941 0.999992 0.999917
0.999592 0.999021 0.998203 0.99714 0.995832 0.994281 0.992487 0.990451
0.988176 0.985663
1 2006 1 1 sel*ret_nums  0.00171496 0.0845306 0.680925 0.99941 0.999992
0.999917 0.999592 0.999021 0.998203 0.99714 0.995832 0.994281 0.992487
0.990451 0.988176 0.985663
1 2006 1 1 dead_nums  0.00171496 0.0845306 0.680925 0.99941 0.999992 0.999917
0.999592 0.999021 0.998203 0.99714 0.995832 0.994281 0.992487 0.990451
0.988176 0.985663
1 2006 1 1 dead*wt  0.000307115 0.0376789 0.549828 1.22382 1.66059 2.08799
2.48742 2.84605 3.15612 3.41532 3.62629 3.79461 3.92695 4.02974 4.10865
4.16834
2 2006 1 1 sel*wt  0.000131324 0.0123618 0.240667 1.1148 1.66043 2.08815
2.48805 2.84727 3.15801 3.41796 3.62972 3.79885 3.93202 4.03565 4.11538
4.17589
2 2006 1 1 sel*ret*wt  0.000131324 0.0123618 0.240667 1.1148 1.66043 2.08815
2.48805 2.84727 3.15801 3.41796 3.62972 3.79885 3.93202 4.03565 4.11538
4.17589
2 2006 1 1 sel_nums  0.000733328 0.0277331 0.29805 0.910385 0.999895 0.999995
0.999846 0.999447 0.998802 0.997911 0.996774 0.995393 0.993769 0.991903
0.989795 0.987449
2 2006 1 1 sel*ret_nums  0.000733328 0.0277331 0.29805 0.910385 0.999895
0.999995 0.999846 0.999447 0.998802 0.997911 0.996774 0.995393 0.993769
0.991903 0.989795 0.987449
2 2006 1 1 dead_nums  0.000733328 0.0277331 0.29805 0.910385 0.999895
0.999995 0.999846 0.999447 0.998802 0.997911 0.996774 0.995393 0.993769
0.991903 0.989795 0.987449
2 2006 1 1 dead*wt  0.000131324 0.0123618 0.240667 1.1148 1.66043 2.08815
2.48805 2.84727 3.15801 3.41796 3.62972 3.79885 3.93202 4.03565 4.11538
4.17589
3 2006 1 1 sel*wt  0.00951124 0.220262 0.80717 1.22451 1.6606 2.08816 2.48842
2.84884 3.16179 3.42511 3.64145 3.81642 3.95664 4.06842 4.15009 0.00122562
3 2006 1 1 sel*ret*wt  0.00951124 0.220262 0.80717 1.22451 1.6606 2.08816
2.48842 2.84884 3.16179 3.42511 3.64145 3.81642 3.95664 4.06842 4.15009
0.00122562
3 2006 1 1 sel_nums  0.0531117 0.494146 0.999627 0.999976 0.999996 0.999997
0.999998 0.999998 0.999997 0.999997 0.999997 0.999995 0.999991 0.999958
0.998144 0.000289815
3 2006 1 1 sel*ret_nums  0.0531117 0.494146 0.999627 0.999976 0.999996
0.999997 0.999998 0.999998 0.999997 0.999997 0.999997 0.999995 0.999991
0.999958 0.998144 0.000289815
```

3 2006 1 1 dead_nums 0.0531117 0.494146 0.999627 0.999976 0.999996 0.999997
0.999998 0.999998 0.999997 0.999997 0.999997 0.999995 0.999991 0.999958
0.998144 0.000289815
3 2006 1 1 dead*wt 0.00951124 0.220262 0.80717 1.22451 1.6606 2.08816
2.48842 2.84884 3.16179 3.42511 3.64145 3.81642 3.95664 4.06842 4.15009
0.00122562
4 2006 1 1 sel*wt 0.0014806 0.108204 0.780011 1.22404 1.4622 1.58809 1.86922
2.13968 2.37474 2.57251 2.735 2.86641 2.97174 3.0558 3.12281 3.17626
4 2006 1 1 sel*ret*wt 0.0014806 0.108204 0.780011 1.22404 1.4622 1.58809
1.86922 2.13968 2.37474 2.57251 2.735 2.86641 2.97174 3.0558 3.12281 3.17626
4 2006 1 1 sel_nums 0.00826784 0.24275 0.965991 0.999591 0.88052 0.760519
0.751165 0.751071 0.751071 0.751071 0.751071 0.751071 0.751071 0.751071
0.751071 0.751071
4 2006 1 1 sel*ret_nums 0.00826784 0.24275 0.965991 0.999591 0.88052
0.760519 0.751165 0.751071 0.751071 0.751071 0.751071 0.751071 0.751071
0.751071 0.751071 0.751071
4 2006 1 1 dead_nums 0.00826784 0.24275 0.965991 0.999591 0.88052 0.760519
0.751165 0.751071 0.751071 0.751071 0.751071 0.751071 0.751071 0.751071
0.751071 0.751071
4 2006 1 1 dead*wt 0.0014806 0.108204 0.780011 1.22404 1.4622 1.58809
1.86922 2.13968 2.37474 2.57251 2.735 2.86641 2.97174 3.0558 3.12281 3.17626
5 2006 1 1 sel*wt 0.000750575 0.0436764 0.488882 1.22329 1.66058 2.08806
2.48763 2.84645 3.15672 3.41615 3.62734 3.79591 3.92849 4.03154 4.11068
4.17061
5 2006 1 1 sel*ret*wt 0.000750575 0.0436764 0.488882 1.22329 1.66058 2.08806
2.48763 2.84645 3.15672 3.41615 3.62734 3.79591 3.92849 4.03154 4.11068
4.17061
5 2006 1 1 sel_nums 0.00419129 0.0979857 0.605447 0.99898 0.999986 0.999953
0.99968 0.999159 0.998392 0.99738 0.996123 0.994621 0.992877 0.990892
0.988666 0.986202
5 2006 1 1 sel*ret_nums 0.00419129 0.0979857 0.605447 0.99898 0.999986
0.999953 0.99968 0.999159 0.998392 0.99738 0.996123 0.994621 0.992877
0.990892 0.988666 0.986202
5 2006 1 1 dead_nums 0.00419129 0.0979857 0.605447 0.99898 0.999986 0.999953
0.99968 0.999159 0.998392 0.99738 0.996123 0.994621 0.992877 0.990892
0.988666 0.986202
5 2006 1 1 dead*wt 0.000750575 0.0436764 0.488882 1.22329 1.66058 2.08806
2.48763 2.84645 3.15672 3.41615 3.62734 3.79591 3.92849 4.03154 4.11068
4.17061
6 2006 1 1 sel*wt 0.0136034 0.309009 0.806938 1.05051 0.243565 0.0141681
0.00882758 0.0100774 0.0111843 0.0121157 0.012881 0.0134999 0.0139959
0.0143918 0.0147074 0.0149591
6 2006 1 1 sel*ret*wt 0.0136034 0.309009 0.806938 1.05051 0.243565 0.0141681
0.00882758 0.0100774 0.0111843 0.0121157 0.012881 0.0134999 0.0139959
0.0143918 0.0147074 0.0149591
6 2006 1 1 sel_nums 0.075963 0.693246 0.999339 0.857884 0.146672 0.00678497
0.00354745 0.00353737 0.00353733 0.00353732 0.00353731 0.0035373 0.0035373
0.0035373 0.00353729 0.00353729
6 2006 1 1 sel*ret_nums 0.075963 0.693246 0.999339 0.857884 0.146672
0.00678497 0.00354745 0.00353737 0.00353733 0.00353732 0.00353731 0.0035373
0.0035373 0.0035373 0.00353729 0.00353729
6 2006 1 1 dead_nums 0.075963 0.693246 0.999339 0.857884 0.146672 0.00678497
0.00354745 0.00353737 0.00353733 0.00353732 0.00353731 0.0035373 0.0035373
0.0035373 0.00353729 0.00353729
6 2006 1 1 dead*wt 0.0136034 0.309009 0.806938 1.05051 0.243565 0.0141681
0.00882758 0.0100774 0.0111843 0.0121157 0.012881 0.0134999 0.0139959
0.0143918 0.0147074 0.0149591

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ENVIRONMENTAL_DATA Begins_in_startyr-1

NUMBERS_AT_AGE
Population 1 gmorph 1 gender: 1 GrowPattern: 1 birthseason: 1
Year Per Seas  0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
1980 VIRG 1  45538.3 37283.6 30525.2 24991.9 20461.7 16752.6 13715.9 11229.6
9194.02 7527.43 6162.94 5045.79 4131.14 3382.29 2769.19 12482.1
1981 INIT 1  43197 34167.7 14497.7 2177.33 326.874 49.0723 7.36998 1.10778
0.166717 0.0251318 0.00379636 0.000574899 8.73119e-005 1.33043e-005 2.03481e-
006 3.69501e-007
1982 TIME 1  44297.1 34167.7 14497.7 2177.33 326.874 49.0723 7.36998 1.10778
0.166717 0.0251318 0.00379636 0.000574899 8.73119e-005 1.33043e-005 2.03481e-
006 3.69501e-007
1983 TIME 1  62916.4 34496.2 13739.7 2273.85 270.692 41.1735 6.20238 0.932324
0.140314 0.0211531 0.00319569 0.000484008 7.35221e-005 1.12057e-005 1.71431e-
006 3.11418e-007
1984 TIME 1  36151.1 50120.6 17964.7 3246.65 426.958 51.5916 7.87606 1.18722
0.178626 0.0269177 0.00406467 0.000615296 9.34102e-005 1.42277e-005 2.17511e-
006 3.94779e-007
1985 TIME 1  47725.9 28202.5 20209.6 2459.76 308.956 41.1475 4.9899 0.762467
0.115091 0.0173491 0.00262072 0.000396904 6.02903e-005 9.18939e-006 1.40598e-
006 2.55447e-007
1986 TIME 1  52311.7 37547.1 12570.3 3569.68 336.151 42.2943 5.63938 0.684394
0.1047 0.0158294 0.00239108 0.000362093 5.49989e-005 8.38252e-006 1.2825e-006
2.3302e-007
1987 TIME 1  38847.8 40532.7 13866.3 1618.99 371.946 36.0175 4.5607 0.608732
0.0739782 0.0113387 0.00171837 0.000260312 3.95534e-005 6.03107e-006
9.23217e-007 1.6786e-007
1988 TIME 1  10621.7 30481.4 17509.3 2418.08 234.261 55.0735 5.36132 0.679452
0.0907935 0.0110514 0.00169722 0.000257833 3.91689e-005 5.97085e-006
9.13757e-007 1.66092e-007
1989 TIME 1  23587 8239.23 11073.4 2001.96 215.537 21.2305 5.01224 0.488437
0.0619927 0.00830073 0.00101296 0.000156049 2.37924e-005 3.62954e-006
5.55886e-007 1.0115e-007
1990 TIME 1  28244.9 18257.1 3821.36 2286.03 336.65 36.3249 3.58197 0.846196
0.0825425 0.0104906 0.00140711 0.000172073 2.65737e-005 4.06313e-006
6.21814e-007 1.14363e-007
1991 TIME 1  26297 21550.2 8566.97 964.998 491.33 73.9284 8.01547 0.790881
0.186984 0.0182594 0.00232386 0.000312223 3.82566e-005 5.92144e-006 9.07702e-
007 1.68093e-007
1992 TIME 1  32432.6 20078.5 9174.63 1678.26 156.587 82.4243 12.4926 1.35555
0.133885 0.0316971 0.00310064 0.000395445 5.3261e-005 6.54448e-006 1.0162e-
006 1.87993e-007
1993 TIME 1  28239.9 24940.6 8138.58 1529.41 243.813 23.3696 12.375 1.87723
0.203926 0.0201724 0.00478505 0.000469176 6.00011e-005 8.10672e-006 9.99645e-
007 1.86477e-007
1994 TIME 1  28620.9 21654.3 10567.3 1633.44 265.529 45.2531 4.39811 2.33111
0.353958 0.0385012 0.00381482 0.000906713 8.91114e-005 1.14267e-005 1.54851e-
006 2.29819e-007
1995 TIME 1  34451 22182.3 9515.15 2163.93 285.351 50.1376 8.81728 0.858771
0.455607 0.0692695 0.00754701 0.000749264 0.0001785 1.75897e-005 2.26228e-006
3.54915e-007
1996 TIME 1  25144.7 27895.5 14468.2 1926.21 154.602 19.9589 3.55233 0.62539
0.0609846 0.0324128 0.00493979 0.000539807 5.37839e-005 1.28666e-005
1.27392e-006 1.91109e-007
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1997 TIME 1  25677 20387 18863.9 3791.7 216.248 17.0245 2.21519 0.394562
0.069531 0.00679023 0.00361598 0.000552423 6.05431e-005 6.05267e-006
1.45356e-006 1.66951e-007
1998 TIME 1  27386.1 20892.1 14834.6 7960.09 1070.81 61.7709 4.8876 0.636245
0.113387 0.0199972 0.00195492 0.0010424 0.000159497 1.75116e-005 1.75427e-006
4.71578e-007
1999 TIME 1  21247.3 22283.1 15339.2 6788.65 2538.52 346.333 20.1053 1.59153
0.207274 0.0369643 0.00652508 0.000638611 0.00034098 5.22552e-005 5.74752e-
006 7.34422e-007
2000 TIME 1  26996.8 17271.7 16466.7 8003.09 2790.3 1060.76 145.762 8.46559
0.670341 0.0873426 0.0155856 0.0027533 0.000269707 0.000144157 2.21184e-005
2.76496e-006
2001 TIME 1  29162.3 21941.2 12639.8 7941.81 2832.17 1011.03 387.231 53.2332
3.09293 0.245056 0.0319548 0.00570765 0.00100947 9.90189e-005 5.30068e-005
9.19373e-006
2002 TIME 1  33483.4 23703.2 16195.4 6617.68 3275.38 1214.12 437.983 167.832
23.0796 1.34159 0.106362 0.0138802 0.00248153 0.00043936 4.31499e-005
2.71883e-005
2003 TIME 1  24764.3 27287.2 18021.6 9164.91 2996.53 1504.56 560.885 202.399
77.5804 10.6731 0.620762 0.0492486 0.00643225 0.00115108 0.000204027
3.28655e-005
2004 TIME 1  40333.2 20179.2 20745.2 10293.6 4251.72 1412.77 713.005 265.876
95.9696 36.8005 5.06551 0.294814 0.023408 0.00306009 0.000548195 0.000113196
2005 TIME 1  23368.8 32877.8 15426 12139.4 4936.17 2075.59 693.563 350.13
130.596 47.1577 18.0923 2.49195 0.145142 0.0115342 0.00150936 0.000326933
2006 TIME 1  25925.7 19058.5 25332.3 9405.91 6263.98 2592.44 1095.62 366.197
184.909 68.9926 24.9239 9.5674 1.31863 0.0768607 0.00611328 0.000975072
2007 FORE 1  41729.8 21161.6 14899.7 16683.5 5453.01 3678.07 1528.03 645.902
215.92 109.054 40.7031 14.7101 5.64942 0.779069 0.0454397 0.00419682

CATCH_AT_AGE
 fleet 1 fleetarea 1 gmorph 1
Year Seas  0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
1981 E  1328.04 15081.2 11020.7 1655.29 248.502 37.303 5.60131 0.841681
0.126619 0.0190778 0.00288014 0.000435845 6.61403e-005 1.00691e-005 1.53846e-
006 2.79058e-007
1982 1  555.344 6055.43 4597.46 637.327 96.1036 14.4409 2.16842 0.325836
0.0490177 0.00738561 0.00111501 0.000168738 2.56073e-005 3.89862e-006
5.95704e-007 1.08061e-007
1983 1  970.72 8329.43 6169.05 936.801 112.135 17.0751 2.57157 0.386401
0.0581238 0.00875704 0.00132199 0.000200054 3.03594e-005 4.62213e-006
7.06272e-007 1.2813e-007
1984 1  532.188 10433.6 6374.38 1021.17 134.836 16.3079 2.48911 0.375095
0.0564149 0.00849755 0.00128248 0.000194021 2.94348e-005 4.47992e-006
6.84306e-007 1.24086e-007
1985 1  715.596 6217.37 7959 885 111.225 14.8156 1.79626 0.274383 0.0413992
0.00623741 0.000941635 0.000142508 2.16297e-005 3.2938e-006 5.03448e-007
9.13692e-008
1986 1  847.131 8312.39 4820.55 1275.96 121.256 15.2847 2.03771 0.247228
0.0378078 0.00571358 0.000862597 0.000130548 1.98153e-005 3.01775e-006
4.61309e-007 8.37363e-008
1987 1  615.558 9328.1 5751.65 628.676 145.597 14.1217 1.78782 0.238548
0.028978 0.00443912 0.000672324 0.000101775 1.54514e-005 2.35383e-006
3.59945e-007 6.53709e-008
1988 1  207.98 8099.26 7796.26 993.506 96.7564 22.7719 2.21646 0.280824
0.0375132 0.00456422 0.000700612 0.000106373 1.61495e-005 2.46004e-006
3.76176e-007 6.83173e-008
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1989 1  363.866 1916.28 4788.99 803.344 86.5586 8.52743 2.0127 0.196062
0.0248721 0.00332832 0.000405871 6.24736e-005 9.5162e-006 1.45016e-006
2.2185e-007 4.13929e-008
1990 1  251.987 2485.28 1039.19 584.607 86.7932 9.37995 0.924716 0.218359
0.0212878 0.00270365 0.000362338 4.42667e-005 6.82867e-006 1.04281e-006
1.59382e-007 3.05562e-008
1991 1  297.308 3562.75 2680.37 282.035 145.316 21.9171 2.37583 0.234334
0.0553756 0.00540427 0.000687304 9.2266e-005 1.12946e-005 1.74634e-006
2.67397e-007 5.10036e-008
1992 1  535.657 4732.24 3940.64 686.81 64.6874 34.1134 5.16945 0.560741
0.0553589 0.013099 0.00128053 0.00016319 2.19606e-005 2.69581e-006 4.18159e-
007 7.88199e-008
1993 1  302.994 3896.99 2433.33 433.723 70.8413 6.82315 3.61257 0.547802
0.0594788 0.00588 0.00139375 0.00013654 1.74445e-005 2.35432e-006 2.89971e-
007 5.5294e-008
1994 1  305.083 3397.2 3146.35 458.887 76.7394 13.2273 1.28594 0.681326
0.103402 0.0112404 0.00111291 0.000264291 2.59489e-005 3.32374e-006 4.49886e-
007 6.74678e-008
1995 1  55.3359 1585.26 3360.96 790.609 103.651 18.2814 3.21499 0.313064
0.166046 0.0252365 0.00274843 0.000272732 6.49386e-005 6.3952e-006 8.21955e-
007 1.29438e-007
1996 1  24.3626 1222.18 3399.97 489.414 39.0544 5.05459 0.899561 0.158329
0.0154342 0.00819968 0.00124901 0.000136407 1.35816e-005 3.24659e-006
3.21172e-007 4.85813e-008
1997 1  13.1173 486.648 2836.75 708.972 40.6415 3.20576 0.417066 0.0742597
0.0130797 0.0012765 0.000679233 0.000103671 1.13495e-005 1.13324e-006
2.71776e-007 3.13421e-008
1998 1  12.2858 439.804 2028.89 1372.47 185.799 10.7449 0.850062 0.110615
0.0197024 0.00347236 0.000339168 0.000180669 2.76119e-005 3.02758e-006
3.02851e-007 8.17139e-008
1999 1  7.55535 373.132 1762.65 1031.75 388.768 53.1994 3.08792 0.244331
0.031801 0.00566665 0.000999308 9.76877e-005 5.20885e-005 7.97025e-006
8.75165e-007 1.14193e-007
2000 1  8.59107 257.657 1635.57 1022.15 360.1 137.312 18.8657 1.09524
0.0866762 0.0112852 0.00201194 0.00035504 3.47358e-005 1.854e-005 2.8402e-006
3.58176e-007
2001 1  9.59387 339.746 1345.92 1118.37 405.732 145.483 55.7145 7.65586
0.444543 0.0351936 0.00458468 0.000817951 0.00014447 1.41496e-005 7.56169e-
006 1.31454e-006
2002 1  12.5499 423.55 2032.09 1103.92 550.125 204.41 73.7256 28.2386 3.88079
0.225401 0.0178519 0.00232688 0.000415428 7.3437e-005 7.19969e-006 4.55007e-
006
2003 1  7.96154 418.245 1947.88 1325.36 436.66 219.725 81.8947 29.539 11.3151
1.55538 0.0903711 0.00716099 0.000933971 0.000166873 2.95255e-005 4.77603e-
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2004 1  13.8133 330.295 2414.61 1608.64 670.07 223.187 112.617 41.9751
15.1414 5.80122 0.797702 0.0463697 0.00367648 0.000479848 8.5807e-005
1.77203e-005
2005 1  7.22101 487.259 1650.34 1767.62 724.858 305.461 102.049 51.4929
19.1936 6.92471 2.65386 0.365067 0.0212319 0.00168446 0.000220017 4.76414e-
005
2006 1  4.89249 173.633 1714.44 881.083 590.525 244.804 103.435 34.5546
17.4358 6.49962 2.34537 0.899099 0.123726 0.00719913 0.000571472 9.11465e-005
 fleet 2 fleetarea 1 gmorph 1
Year Seas  0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
1981 E  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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1982 1 167.318 1285.66 1872.92 473.998 71.7992 10.7915 1.62086 0.243622
0.0366593 0.00552501 0.000834337 0.000126296 1.91715e-005 2.91957e-006
4.46225e-007 8.09668e-008
1983 1 238.672 1443.19 2050.91 568.576 68.3673 10.413 1.56865 0.235767
0.0354743 0.00534604 0.000807269 0.000122195 1.85487e-005 2.82473e-006
4.3174e-007 7.8346e-008
1984 1 213.479 2949.36 3457.4 1011.16 134.121 16.2253 2.47717 0.373395
0.0561741 0.00846353 0.00127769 0.000193346 2.93403e-005 4.46672e-006
6.82471e-007 1.23786e-007
1985 1 198.393 1214.7 2983.58 605.671 76.4647 10.1879 1.23552 0.188779
0.0284907 0.00429369 0.000648372 9.81512e-005 1.49013e-005 2.26979e-006
3.47022e-007 6.29967e-008
1986 1 182.316 1260.67 1402.78 677.866 64.711 8.15899 1.08802 0.132041
0.0201979 0.00305316 0.000461067 6.97976e-005 1.05971e-005 1.61431e-006
2.46836e-007 4.48174e-008
1987 1 119.852 1279.88 1514.22 302.159 70.2955 6.81972 0.863613 0.115262
0.0140054 0.00214605 0.000325114 4.9228e-005 7.47579e-006 1.13914e-006
1.74242e-007 3.16532e-008
1988 1 43.0122 1180.37 2180.1 507.194 49.6192 11.6808 1.13724 0.144125
0.0192577 0.00234371 0.000359857 5.46513e-005 8.29929e-006 1.26456e-006
1.93421e-007 3.51365e-008
1989 1 77.8667 288.983 1385.72 424.372 45.9326 4.52621 1.06859 0.104122
0.0132122 0.00176849 0.000215716 3.32128e-005 5.06043e-006 7.71355e-007
1.18036e-007 2.20291e-008
1990 1 74.4466 517.42 415.127 426.348 63.5847 6.87341 0.67779 0.160093
0.0156117 0.00198328 0.000265866 3.24894e-005 5.0132e-006 7.65769e-007
1.17071e-007 2.24504e-008
1991 1 81.6481 689.487 995.302 191.195 98.9588 14.9289 1.61873 0.159702
0.0377493 0.00368505 0.000468781 6.29475e-005 7.70766e-006 1.19205e-006
1.82574e-007 3.48336e-008
1992 1 73.9438 460.345 735.534 234.038 22.1429 11.6801 1.77044 0.192094
0.0189694 0.00448974 0.000439022 5.59638e-005 7.53306e-006 9.24979e-007
1.43516e-007 2.70589e-008
1993 1 71.1611 644.972 772.735 251.452 41.2568 3.97466 2.10497 0.319278
0.0346755 0.00342889 0.000812976 7.96651e-005 1.01808e-005 1.37437e-006
1.69319e-007 3.22958e-008
1994 1 77.0766 604.824 1074.81 286.184 48.0755 8.28865 0.806025 0.427166
0.0648462 0.00705103 0.000698308 0.000165877 1.62906e-005 2.08719e-006
2.82586e-007 4.23897e-008
1995 1 18.6366 409.641 1158.7 567.231 81.6298 14.3999 2.53284 0.246681
0.130859 0.0198922 0.00216677 0.00021505 5.12131e-005 5.04437e-006 6.4845e-
007 1.02133e-007
1996 1 9.79813 377.134 1399.72 419.309 36.7286 4.75441 0.846285 0.148978
0.0145251 0.00771807 0.00117586 0.00012844 1.27906e-005 3.05801e-006 3.0257e-
007 4.57753e-008
1997 1 1.97554 56.2338 437.331 227.462 14.3129 1.12918 0.146931 0.026166
0.00460954 0.000449941 0.000239457 3.65544e-005 4.00253e-006 3.9972e-007
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0.000131258 1.70978e-005 3.0499e-006 5.38552e-007 5.27284e-008 2.81664e-008
4.31869e-009 4.75301e-010 6.21764e-011
2000 1 88.2502 490.046 556.679 203.479 12.2489 0.216079 0.015527 0.000899368
7.12325e-005 9.28429e-006 1.65738e-006 2.92929e-007 2.87109e-008 1.53557e-008
2.3578e-009 2.98099e-010
2001 1 129.467 848.88 601.8 292.475 18.1305 0.300756 0.0602393 0.00825882
0.000479942 3.80364e-005 4.96151e-006 8.86561e-007 1.56871e-007 1.53957e-008
8.24658e-009 1.43726e-009
2002 1 80.9093 505.581 434.078 137.923 11.7442 0.201883 0.0380823 0.0145533
0.00200166 0.000116382 9.22962e-006 1.20489e-006 2.15504e-007 3.81738e-008
3.75113e-009 2.37669e-009
2003 1 57.8051 562.246 468.594 186.483 10.4982 0.244392 0.0476399 0.0171445
0.00657263 0.000904433 5.26184e-005 4.17598e-006 5.45636e-007 9.76893e-008
1.73243e-008 2.80952e-009

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2004 1  105.309 466.225 609.93 237.664 16.9158 0.260659 0.0687886 0.025581
0.00923511 0.00354207 0.000487694 2.83934e-005 2.25528e-006 2.94959e-007
5.28664e-008 1.09454e-008
2005 1  54.8353 685.092 415.244 260.129 18.2272 0.355349 0.0620892 0.0312586
0.0116608 0.00421148 0.00161615 0.000222665 1.29733e-005 1.03137e-006
1.35023e-007 2.93118e-008
2006 1  45.5824 299.521 529.244 159.083 18.2184 0.349401 0.0772115 0.0257355
0.0129963 0.00484983 0.00175234 0.000672809 9.27536e-005 5.40803e-006
4.30282e-007 6.88024e-008

BIOLOGY 1 70 15 1 N_Used_morphs;_lengths;_ages;_season;_by_season_in_endyr
bin low Mean_Size Wt_len-F mat_len spawn Wt_len-M
1 10 10.5 0.0063863 1 0.0063863
2 11 11.5 0.00865928 1 0.00865928
3 12 12.5 0.0114467 1 0.0114467
4 13 13.5 0.0148098 1 0.0148098
5 14 14.5 0.0188113 1 0.0188113
6 15 15.5 0.0235157 1 0.0235157
7 16 16.5 0.0289892 1 0.0289892
8 17 17.5 0.0352991 1 0.0352991
9 18 18.5 0.0425145 1 0.0425145
10 19 19.5 0.0507059 1 0.0507059
11 20 20.5 0.0599448 1 0.0599448
12 21 21.5 0.0703042 1 0.0703042
13 22 22.5 0.0818585 1 0.0818585
14 23 23.5 0.0946829 1 0.0946829
15 24 24.5 0.108854 1 0.108854
16 25 25.5 0.12445 1 0.12445
17 26 26.5 0.14155 1 0.14155
18 27 27.5 0.160232 1 0.160232
19 28 28.5 0.180579 1 0.180579
20 29 29.5 0.202673 1 0.202673
21 30 30.5 0.226596 1 0.226596
22 31 31.5 0.252433 1 0.252433
23 32 32.5 0.280267 1 0.280267
24 33 33.5 0.310187 1 0.310187
25 34 34.5 0.342277 1 0.342277
26 35 35.5 0.376627 1 0.376627
27 36 36.5 0.413324 1 0.413324
28 37 37.5 0.452458 1 0.452458
29 38 38.5 0.494119 1 0.494119
30 39 39.5 0.538399 1 0.538399
31 40 40.5 0.58539 1 0.58539
32 41 41.5 0.635184 1 0.635184
33 42 42.5 0.687876 1 0.687876
34 43 43.5 0.743558 1 0.743558
35 44 44.5 0.802328 1 0.802328
36 45 45.5 0.86428 1 0.86428
37 46 46.5 0.929512 1 0.929512
38 47 47.5 0.99812 1 0.99812
39 48 48.5 1.0702 1 1.0702
40 49 49.5 1.14586 1 1.14586
41 50 50.5 1.22519 1 1.22519
42 51 51.5 1.3083 1 1.3083
43 52 52.5 1.39527 1 1.39527
44 53 53.5 1.48623 1 1.48623
45 54 54.5 1.58127 1 1.58127
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46 55 55.5 1.68048 1 1.68048
47 56 56.5 1.78398 1 1.78398
48 57 57.5 1.89188 1 1.89188
49 58 58.5 2.00426 1 2.00426
50 59 59.5 2.12125 1 2.12125
51 60 60.5 2.24294 1 2.24294
52 61 61.5 2.36945 1 2.36945
53 62 62.5 2.50088 1 2.50088
54 63 63.5 2.63734 1 2.63734
55 64 64.5 2.77893 1 2.77893
56 65 65.5 2.92577 1 2.92577
57 66 66.5 3.07797 1 3.07797
58 67 67.5 3.23564 1 3.23564
59 68 68.5 3.39888 1 3.39888
60 69 69.5 3.56782 1 3.56782
61 70 70.5 3.74255 1 3.74255
62 71 71.5 3.9232 1 3.9232
63 72 72.5 4.10988 1 4.10988
64 73 73.5 4.30271 1 4.30271
65 74 74.5 4.50178 1 4.50178
66 75 75.5 4.70723 1 4.70723
67 76 76.5 4.91917 1 4.91917
68 77 77.5 5.13771 1 5.13771
69 78 78.5 5.36296 1 5.36296
70 79 79.5 5.59506 1 5.59506

Growth_Parameters
 Count Yr Morph A1 A2 L-at-A1 L-at-A2 K A-at-L0 Linf CVmin CVmax natM_amin
natM_max M_young M_old
 1 1982 1 0.5 6 28.1 60.2 0.2052 -1.76669 75.5491 0.1 0.1 0 2 0.2 0.2

Season gmorph GrowPattern Sex BirthSeas age age_Beg age_Mid M Len_Beg Len_Mid
SD_Beg SD_Mid Wt_Beg Wt_Mid Len_Mat Age_Mat Mat*Fecund Len:_1 SelWt:_1
RetWt:_1 Len:_2 SelWt:_2 RetWt:_2 Len:_3 SelWt:_3 RetWt:_3 Len:_4 SelWt:_4
RetWt:_4 Len:_5 SelWt:_5 RetWt:_5 Len:_6 SelWt:_6 RetWt:_6 Len:_7 SelWt:_7
RetWt:_7 Len:_8 SelWt:_8 RetWt:_8 Len:_9 SelWt:_9 RetWt:_9 Len:_10 SelWt:_10
RetWt:_10 Len:_11 SelWt:_11 RetWt:_11 Len:_12 SelWt:_12 RetWt:_12 Len:_13
SelWt:_13 RetWt:_13 Len:_14 SelWt:_14 RetWt:_14 Len:_15 SelWt:_15 RetWt:_15
Len:_16 SelWt:_16 RetWt:_16 Len:_17 SelWt:_17 RetWt:_17 Len:_18 SelWt:_18
RetWt:_18 Len:_19 SelWt:_19 RetWt:_19
1 1 1 1 1 0 0 0.5 0.2 10 28.1 1 2.81 0.006815 0.17908 1 0.38 0.0025897 28.1
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1 1 1 1 1 1 1 1.5 0.2 32.7269 36.9026 3.27269 3.69026 0.298237 0.445742 1
0.91 0.271396 36.9026 0.445742 0.445742 36.9026 0.445742 0.445742 36.9026
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1 1 1 1 1 2 2 2.5 0.2 40.6711 44.0721 4.06711 4.40721 0.61717 0.807472 1 0.98
0.604826 44.0721 0.807472 0.807472 44.0721 0.807472 0.807472 44.0721 0.807472
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1 1 1 1 1 3 3 3.5 0.2 47.1415 49.9116 4.71415 4.99116 1.01154 1.22454 1 1
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1 1 1 1 1 4 4 4.5 0.2 52.4115 54.6677 5.24115 5.46677 1.44214 1.66061 1 1
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1 1 1 1 1 5 5 5.5 0.2 56.7039 58.5416 5.67039 5.85416 1.8768 2.08816 1 1
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1 1 1 1 1 6 6 6.5 0.2 60.2 61.6967 6.02 6.16967 2.29261 2.48843 1 1 2.29261
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1 1 1 1 1 7 7 7.5 0.2 63.0475 64.2666 6.30475 6.42666 2.67421 2.84884 1 1
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1 1 1 1 1 8 8 8.5 0.2 65.3667 66.3596 6.53667 6.63596 3.01152 3.1618 1 1
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1 1 1 1 1 9 9 9.5 0.2 67.2557 68.0644 6.72557 6.80644 3.29959 3.42512 1 1
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1 1 1 1 1 11 11 11.5 0.2 70.0474 70.5839 7.00474 7.05839 3.73371 3.81643 1 1
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1 1 1 1 1 12 12 12.5 0.2 71.0681 71.505 7.10681 7.1505 3.89048 3.95667 1 1
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1 1 1 1 1 13 13 13.5 0.2 71.8994 72.2553 7.18994 7.22553 4.0158 4.06859 1 1
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1 1 1 1 1 14 14 14.5 0.2 72.5765 72.8663 7.25765 7.28663 4.11573 4.15781 1 1
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1 1 1 1 1 15 15 15.5 0.2 73.1279 73.364 7.31279 7.3364 4.19539 4.22897 1 1
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MEAN_BODY_WT(begin)
morph year season 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
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1 1982 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
3.01152 3.29959 3.53886 3.73371 3.89048 4.0158 4.11573 4.19539
1 1983 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
3.01152 3.29959 3.53886 3.73371 3.89048 4.0158 4.11573 4.19539
1 1984 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
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1 1985 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
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1 1986 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
3.01152 3.29959 3.53886 3.73371 3.89048 4.0158 4.11573 4.19539
1 1987 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
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1 1988 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
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1 1989 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
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1 1990 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
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1 1991 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
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1 1992 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
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1 1993 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
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1 1994 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
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1 1998 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
3.01152 3.29959 3.53886 3.73371 3.89048 4.0158 4.11573 4.19539
1 1999 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
3.01152 3.29959 3.53886 3.73371 3.89048 4.0158 4.11573 4.19539
1 2000 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
3.01152 3.29959 3.53886 3.73371 3.89048 4.0158 4.11573 4.19539
1 2001 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
3.01152 3.29959 3.53886 3.73371 3.89048 4.0158 4.11573 4.19539
1 2002 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
3.01152 3.29959 3.53886 3.73371 3.89048 4.0158 4.11573 4.19539
1 2003 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
3.01152 3.29959 3.53886 3.73371 3.89048 4.0158 4.11573 4.19539
1 2004 1 0.006815 0.298237 0.61717 1.01154 1.44214 1.8768 2.29261 2.67421
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3.01152 3.29959 3.53886 3.73371 3.89048 4.0158 4.11573 4.19539
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3.01152 3.29959 3.53886 3.73371 3.89048 4.0158 4.11573 4.19539

MEAN_SIZE_TIMESERIES
morph year season beg/mid 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
1 1982 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279

1 1982 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 1983 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1983 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 1984 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1984 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 1985 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1985 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 1986 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1986 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 1987 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1987 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 1988 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1988 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 1989 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1989 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 1990 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1990 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 1991 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1991 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
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66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 1993 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
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67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1994 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
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67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1995 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 1996 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279

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66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 1997 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1997 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 1998 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1998 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 1999 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1999 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 2000 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 2000 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 2001 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 2001 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 2002 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
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1 2002 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 2003 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 2003 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 2004 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
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66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
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67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
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66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
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67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
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66.3596 68.0644 69.453 70.5839 71.505 72.2553 72.8663 73.364
1 2007 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 2007 1 1 28.1 36.9026 44.0721 49.9116 54.6677 58.5416 61.6967 64.2666
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1 1984 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1985 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
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1 1987 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1988 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
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1 1990 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
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1 1991 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1992 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
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1 1993 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1994 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1995 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1996 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
67.2557 68.7943 70.0474 71.0681 71.8994 72.5765 73.1279
1 1997 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
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1 1998 1 0 10 32.7269 40.6711 47.1415 52.4115 56.7039 60.2 63.0475 65.3667
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AGE_LENGTH_KEY
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 sdwithin 1
 sdbetween 1e-006

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Composition_Database
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