Framework Adjustment 47

To the

Northeast Multispecies FMP

Appendix V

ABC Projection Output

SNE/MA Winter Flounder

AGEPRO VERSION 3.3

PROJECTION RUN: 2011 SARC 52 SNE WFL: CAT10 Projected FMSY

INPUT FILE:
C:\NIT\GARM_III_PDT_PROJ_EST08CAT_A16\JSNEWIN\SARC52\PDT_CAT10_AVG09_10_F_STATUSQUO2011.IN
OUTPUT FILE:
C:\NIT\GARM_III_PDT_PROJ_EST08CAT_A16\JSNEWIN\SARC52\PDT_CAT10_AVG09_10_F_STATUSQUO2011.OUT
NUMBER OF SIMULATIONS PER BOOTSTRAP REALIZATION: 100
TOTAL NUMBER OF SIMULATIONS: 100000
NUMBER OF FEASIBLE SIMULATIONS: 100000
PROPORTION OF SIMULATIONS THAT ARE FEASIBLE: 1.00000000000000
NUMBER OF BOOTSTRAP REALIZATIONS: 1000

NUMBER OF RECRUITMENT MODELS: 1
PROBABLE RECRUITMENT MODELS: 5
RECRUITMENT MODELS BY YEAR

YEAR	RECRUITMENT MODELS
2011	5
2012	5
2013	5
2014	5
2015	5
2016	5
2017	5
2018	5
2019	5
2020	5

RECRUITMENT MODEL PROBABILITIES BY YEAR

YEAR	MODEL PROBABILITY
2011	1.00000000000000
2012	1.00000000000000
2013	1.00000000000000
2014	1.00000000000000
2015	1.00000000000000
2016	1.00000000000000
2017	1.00000000000000
2018	1.00000000000000
2019	1.00000000000000
2020	1.00000000000000

RECRUITMENT MODEL SAMPLING FREQUENCIES BY YEAR

YEAR	MODEL SAMPLING FREQUENCIES
2011	100000
2012	100000
2013	100000
2014	100000

2015	100000
2016	100000
2017	100000
2018	100000
2019	100000
2020	100000

MIXTURE OF F AND QUOTA BASED CATCHES

YEAR	F	QUOTA (THOUSAND MT)
2011		0.363
2012	0.070	
2013	0.070	
2014	0.070	
2015	0.070	
2016	0.070	
2017	0.070	
2018	0.070	
2019	0.070	
2020	0.070	

SPAWNING STOCK BIOMASS (THOUSAND MT)

YEAR	AVG SSB (000 MT)	STD
2011	9.333	0.844
2012	9.944	0.843
2013	10.535	0.886
2014	13.618	2.316
2015	18.145	4.090
2016	22.807	5.376
2017	27.793	6.626
2018	33.735	8.221
2019	39.821	9.801
2020	45.962	11.284

PERCENTILES OF SPAWNING STOCK BIOMASS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	7.604	8.111	8.310	8.736	9.268	9.870	10.462	10.848	11.557
2012	8.206	8.673	8.920	9.358	9.850	10.478	11.096	11.437	12.090
2013	8.735	9.214	9.471	9.913	10.432	11.119	11.747	12.126	12.779
2014	9.984	10.712	11.158	12.018	13.209	14.740	16.554	17.911	21.261
2015	11.583	12.887	13.691	15.273	17.448	20.238	23.444	25.749	31.168
2016	13.730	15.602	16.768	18.986	21.990	25.722	29.855	32.755	39.227
2017	16.313	18.712	20.222	23.074	26.876	31.521	36.529	40.013	47.528
2018	19.333	22.363	24.276	27.896	32.625	38.402	44.578	48.697	58.062
2019	22.477	26.255	28.502	32.834	38.514	45.415	52.748	57.711	68.504
2020	25.868	30.258	32.899	37.917	44.496	52.480	60.809	66.617	78.803

ANNUAL PROBABILITY THAT SSB EXCEEDS THRESHOLD: 43.661 THOUSAND MT

YEAR	Pr(SSB >= Threshold Value) FOR FEASIBLE SIMULATIONS
2011	0.000
2012	0.000
2013	0.000
2014	0.000
2015	0.000
2016	0.003
2017	0.022
2018	0.116

2019	0.303
2020	0.531

Pr(SSB >= Threshold Value) AT LEAST ONCE:= 0.532

MEAN BIOMASS (THOUSAND MT) FOR AGES: 1 TO 7

YEAR	AVG MEAN B (000 MT)	STD
2011	12.697	1.055
2012	15.379	1.991
2013	20.925	4.442
2014	26.509	6.001
2015	32.204	7.422
2016	38.851	9.185
2017	46.398	11.207
2018	54.515	13.237
2019	62.489	14.983
2020	70.349	16.552

PERCENTILES OF MEAN STOCK BIOMASS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	10.471	11.136	11.436	11.952	12.561	13.381	14.124	14.585	15.365
2012	11.971	12.734	13.170	13.991	15.086	16.431	17.916	18.989	21.618
2013	13.929	15.309	16.168	17.828	20.148	23.130	26.625	29.132	35.361
2014	16.516	18.557	19.828	22.257	25.562	29.706	34.342	37.594	45.053
2015	19.387	22.068	23.775	26.923	31.153	36.340	42.005	45.892	54.432
2016	22.801	26.180	28.321	32.329	37.595	44.037	50.964	55.568	65.894
2017	26.713	30.940	33.493	38.407	44.894	52.791	61.130	66.818	79.332
2018	30.964	36.135	39.208	45.095	52.748	62.114	71.972	78.641	93.238
2019	35.497	41.491	45.069	51.821	60.634	71.122	82.273	89.874	105.686
2020	40.258	46.831	50.978	58.513	68.404	79.961	92.178	100.461	117.687

ANNUAL PROBABILITY THAT MEAN BIOMASS EXCEEDS THRESHOLD: 43.661 THOUSAND MT

YEAR	Pr(MEAN B >= Threshold Value) FOR FEASIBLE SIMULATIONS
2011	0.000
2012	0.000
2013	0.001
2014	0.014
2015	0.075
2016	0.262
2017	0.548
2018	0.792
2019	0.922
2020	0.975

Pr(MEAN B >= Threshold Value) AT LEAST ONCE:= 0.975

F WEIGHTED BY MEAN BIOMASS FOR AGES: 1 TO 7

YEAR	AVG F_WT_B	STD
2011	0.029	0.002
2012	0.041	0.004
2013	0.035	0.004
2014	0.036	0.004
2015	0.040	0.005
2016	0.042	0.005

2017	0.042	0.005
2018	0.042	0.004
2019	0.043	0.004
2020	0.044	0.004

PERCENTILES OF F WEIGHTED BY MEAN BIOMASS FOR AGES: 1 TO 7

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	0.024	0.025	0.026	0.027	0.029	0.030	0.032	0.033	0.034
2012	0.030	0.034	0.036	0.039	0.042	0.044	0.046	0.047	0.048
2013	0.025	0.027	0.029	0.032	0.035	0.038	0.040	0.042	0.044
2014	0.026	0.029	0.031	0.033	0.036	0.039	0.041	0.043	0.045
2015	0.029	0.032	0.034	0.037	0.040	0.043	0.046	0.047	0.050
2016	0.030	0.034	0.035	0.039	0.042	0.045	0.048	0.049	0.052
2017	0.031	0.034	0.036	0.039	0.042	0.045	0.048	0.049	0.052
2018	0.031	0.035	0.037	0.040	0.043	0.046	0.048	0.049	0.052
2019	0.032	0.035	0.037	0.040	0.043	0.046	0.048	0.050	0.052
2020	0.033	0.036	0.038	0.041	0.044	0.047	0.049	0.050	0.053

ANNUAL PROBABILITY THAT F WEIGHTED BY MEAN BIOMASS EXCEEDS THRESHOLD: 0.290

YEAR	Pr(F_WT_B > Threshold Value) FOR FEASIBLE SIMULATIONS
2011	0.000
2012	0.000
2013	0.000
2014	0.000
2015	0.000
2016	0.000
2017	0.000
2018	0.000
2019	0.000
2020	0.000

TOTAL STOCK BIOMASS (THOUSAND MT)

YEAR	AVG TOTAL B (000 MT)	STD
2011	12.421	1.033
2012	14.544	1.574
2013	18.285	3.020
2014	23.987	5.025
2015	29.582	6.540
2016	35.781	8.116
2017	42.885	9.970
2018	51.039	12.067
2019	59.065	13.907
2020	66.960	15.529

PERCENTILES OF TOTAL STOCK BIOMASS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	10.263	10.886	11.179	11.692	12.308	13.091	13.854	14.195	15.077
2012	11.665	12.348	12.731	13.432	14.353	15.455	16.586	17.379	19.120
2013	13.301	14.339	14.978	16.180	17.805	19.843	22.178	23.827	27.834
2014	15.710	17.385	18.434	20.456	23.185	26.613	30.511	33.245	39.650
2015	18.370	20.696	22.173	24.943	28.628	33.181	38.168	41.628	49.308
2016	21.531	24.556	26.447	29.999	34.690	40.382	46.488	50.666	59.621
2017	25.230	29.028	31.367	35.792	41.583	48.630	56.041	61.015	72.138
2018	29.483	34.224	37.055	42.438	49.491	58.037	66.986	72.933	86.191
2019	33.963	39.557	42.864	49.166	57.323	67.176	77.381	84.377	98.976

2020	38.639	44.946	48.774	55.894	65.153	76.000	87.425	95.212	111.394

ANNUAL PROBABILITY THAT TOTAL STOCK BIOMASS EXCEEDS THRESHOLD: 43.661 THOUSAND MT

YEAR	Pr(B >= Threshold Value) FOR FEASIBLE SIMULATIONS
2011	0.000
2012	0.000
2013	0.000
2014	0.004
2015	0.033
2016	0.156
2017	0.415
2018	0.708
2019	0.885
2020	0.962

Pr(B >= Threshold Value) AT LEAST ONCE:= 0.962

RECRUITMENT UNITS ARE: 1000.00000000000 FISH

YEAR CLASS	AVG RECRUITMENT	STD
2011	31803.464	17195.307
2012	33321.714	17904.848
2013	34715.466	18789.917
2014	40652.275	22077.012
2015	47901.765	26365.461
2016	54064.201	29904.603
2017	59067.297	32339.783
2018	64060.452	34788.539
2019	68277.430	37284.054
2020	71442.571	38696.886

PERCENTILES OF RECRUITMENT UNITS ARE: 1000.00000000000 FISH

YEAR CLASS	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	8599.603	12211.529	14629.500	19921.191	27990.002	39300.502	53399.830	64372.304	91327.974
2012	9053.161	12851.198	15370.166	20828.060	29324.359	41313.177	56106.684	67244.892	94283.625
2013	9378.349	13281.869	15955.826	21677.228	30521.042	42978.391	58334.661	70350.464	99399.908
2014	10825.889	15394.428	18555.100	25288.435	35700.042	50500.396	68689.469	82290.951	116667.405
2015	12645.637	18044.632	21776.724	29624.437	42041.580	59391.074	81025.179	97547.125	139426.510
2016	14280.688	20304.320	24436.600	33478.148	47364.405	66898.638	91333.267	110367.734	157930.183
2017	15673.131	22279.463	26886.283	36689.515	51793.775	73182.733	100014.899	120145.481	170490.084
2018	17139.485	24201.665	29144.279	39876.271	56204.810	79547.142	108372.402	130003.808	181341.585
2019	18170.642	25897.361	31264.009	42629.839	59900.649	84392.130	114861.741	139074.709	196651.878
2020	19203.697	27241.747	32744.843	44657.537	62780.417	88478.042	120069.311	144103.700	203522.549

LANDINGS (000 MT)

YEAR	AVG LANDINGS (000 MT)	STD
2011	0.363	0.000
2012	0.632	0.053
2013	0.707	0.075
2014	0.948	0.198

2015	1.283	0.318
2016	1.611	0.402
2017	1.952	0.486
2018	2.303	0.578
2019	2.679	0.679
2020	3.063	0.774

PERCENTILES OF LANDINGS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	0.363	0.363	0.363	0.363	0.363	0.363	0.363	0.363	0.363
2012	0.527	0.554	0.569	0.595	0.626	0.667	0.703	0.726	0.766
2013	0.569	0.601	0.619	0.653	0.697	0.751	0.805	0.841	0.923
2014	0.642	0.701	0.738	0.811	0.912	1.043	1.199	1.315	1.607
2015	0.768	0.871	0.934	1.059	1.231	1.448	1.695	1.872	2.278
2016	0.924	1.068	1.158	1.326	1.553	1.832	2.141	2.351	2.831
2017	1.105	1.286	1.395	1.605	1.885	2.226	2.594	2.841	3.384
2018	1.291	1.506	1.638	1.891	2.225	2.632	3.062	3.358	4.015
2019	1.484	1.741	1.898	2.196	2.587	3.065	3.571	3.923	4.690
2020	1.693	1.993	2.170	2.512	2.961	3.504	4.085	4.481	5.341

REALIZED F SERIES

YEAR	AVG F	STD
2011	0.042	0.004
2012	0.070	0.000
2013	0.070	0.000
2014	0.070	0.000
2015	0.070	0.000
2016	0.070	0.000
2017	0.070	0.000
2018	0.070	0.000
2019	0.070	0.000
2020	0.070	0.000

PERCENTILES OF REALIZED F SERIES

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	0.034	0.036	0.038	0.040	0.042	0.045	0.047	0.048	0.051
2012	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
2013	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
2014	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
2015	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
2016	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
2017	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
2018	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
2019	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
2020	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070

ANNUAL PROBABILITY FULLY-RECRUITED F EXCEEDS THRESHOLD: 0.290

YEAR	Pr(F > Threshold Value) FOR FEASIBLE SIMULATIONS
2011	0.000
2012	0.000
2013	0.000
2014	0.000
2015	0.000
2016	0.000
2017	0.000
2018	0.000

2019	0.000
2020	0.000

GB Winter Flounder

AGEPRO VERSION 3.3

PROJECTION RUN: Freb 2011 ACL projected out to 2017 (must have 75% prob of being

INPUT FILE:
C:\NIT\GARM_III_PDT_PROJ_EST08CAT_A16\KGBWIN\SARC52\PDT_GBWF_75FMSY_2230IN2011.IN
OUTPUT FILE:
C:\NIT\GARM_III_PDT_PROJ_EST08CAT_A16\KGBWIN\SARC52\PDT_GBWF_75FMSY_2230IN2011.OUT
NUMBER OF SIMULATIONS PER BOOTSTRAP REALIZATION: 50
TOTAL NUMBER OF SIMULATIONS: 50000
NUMBER OF FEASIBLE SIMULATIONS: 50000
PROPORTION OF SIMULATIONS THAT ARE FEASIBLE: 1.00000000000000
NUMBER OF BOOTSTRAP REALIZATIONS: 1000

NUMBER OF RECRUITMENT MODELS: 1
PROBABLE RECRUITMENT MODELS: 5
RECRUITMENT MODELS BY YEAR

YEAR	RECRUITMENT MODELS
2011	5
2012	5
2013	5
2014	5
2015	5
2016	5
2017	5

RECRUITMENT MODEL PROBABILITIES BY YEAR

YEAR	MODEL PROBABILITY
2011	1.00000000000000
2012	1.00000000000000
2013	1.00000000000000
2014	1.00000000000000
2015	1.00000000000000
2016	1.00000000000000
2017	1.00000000000000

RECRUITMENT MODEL SAMPLING FREQUENCIES BY YEAR

YEAR	MODEL SAMPLING FREQUENCIES
2011	50000
2012	50000
2013	50000
2014	50000
2015	50000
2016	50000
2017	50000

MIXTURE OF F AND QUOTA BASED CATCHES

YEAR	F	QUOTA (THOUSAND MT)
2011		2.230
2012	0.315	
2013	0.315	
2014	0.315	
2015	0.315	
2016	0.315	

2017 0.315

SPAWNING STOCK BIOMASS (THOUSAND MT)

YEAR	AVG SSB (000 MT)	STD
2011	12.299	3.095
2012	14.413	3.419
2013	13.021	2.734
2014	13.245	3.051
2015	13.733	3.488
2016	14.376	3.735
2017	14.632	3.823

PERCENTILES OF SPAWNING STOCK BIOMASS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	6.833	7.963	8.696	10.132	11.864	14.019	16.184	18.122	22.049
2012	8.174	9.470	10.234	11.971	14.168	16.364	18.757	20.396	23.939
2013	7.925	8.963	9.660	11.085	12.904	14.615	16.555	17.845	20.845
2014	7.869	9.036	9.760	11.136	12.860	14.893	17.148	18.735	22.515
2015	7.876	9.118	9.862	11.292	13.197	15.559	18.238	20.101	24.588
2016	8.082	9.405	10.207	11.746	13.815	16.354	19.237	21.271	25.949
2017	8.107	9.511	10.338	11.919	14.054	16.704	19.623	21.724	26.292

ANNUAL PROBABILITY THAT SSB EXCEEDS THRESHOLD: 11.866 THOUSAND MT

YEAR	Pr(SSB >= Threshold Value) FOR FEASIBLE SIMULATIONS
2011	0.499
2012	0.767
2013	0.636
2014	0.647
2015	0.677
2016	0.736
2017	0.756

Pr(SSB >= Threshold Value) AT LEAST ONCE:= 0.937

MEAN BIOMASS (THOUSAND MT) FOR AGES: 1 TO 7

YEAR	AVG MEAN B (000 MT)	STD
2011	17.979	3.896
2012	18.687	3.929
2013	18.938	4.031
2014	19.548	4.456
2015	20.033	4.729
2016	20.638	4.909
2017	20.964	5.008

PERCENTILES OF MEAN STOCK BIOMASS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	10.837	12.361	13.192	15.187	17.700	20.193	22.936	24.724	28.778
2012	11.249	12.876	13.958	15.926	18.376	20.997	23.765	25.708	29.796
2013	11.489	13.159	14.216	16.120	18.507	21.228	24.150	26.109	30.682
2014	11.607	13.396	14.424	16.432	18.977	22.017	25.333	27.588	33.047
2015	11.748	13.568	14.620	16.703	19.385	22.658	26.208	28.667	34.131
2016	12.004	13.889	15.011	17.186	19.966	23.360	27.058	29.641	35.152
2017	12.062	14.039	15.205	17.421	20.319	23.775	27.551	30.140	35.715

ANNUAL PROBABILITY THAT MEAN BIOMASS EXCEEDS THRESHOLD: 1000.000 THOUSAND MT

YEAR	Pr(MEAN B >= Threshold Value) FOR FEASIBLE SIMULATIONS
2011	0.000
2012	0.000
2013	0.000
2014	0.000
2015	0.000
2016	0.000
2017	0.000

Pr(MEAN B >= Threshold Value) AT LEAST ONCE:= 0.000

F WEIGHTED BY MEAN BIOMASS FOR AGES: 1 TO 7

YEAR	AVG F_WT_B	STD
2011	0.130	0.028
2012	0.204	0.019
2013	0.202	0.025
2014	0.190	0.022
2015	0.193	0.023
2016	0.196	0.024
2017	0.197	0.024

PERCENTILES OF F WEIGHTED BY MEAN BIOMASS FOR AGES: 1 TO 7

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	0.076	0.090	0.097	0.110	0.126	0.147	0.169	0.180	0.202
2012	0.148	0.169	0.179	0.193	0.206	0.218	0.226	0.231	0.241
2013	0.140	0.159	0.169	0.186	0.204	0.220	0.233	0.240	0.252
2014	0.135	0.152	0.161	0.176	0.191	0.206	0.218	0.225	0.238
2015	0.136	0.153	0.162	0.177	0.193	0.208	0.222	0.230	0.244
2016	0.137	0.156	0.165	0.180	0.196	0.212	0.226	0.234	0.248
2017	0.138	0.156	0.166	0.181	0.197	0.213	0.227	0.235	0.249

ANNUAL PROBABILITY THAT F WEIGHTED BY MEAN BIOMASS EXCEEDS THRESHOLD: 0.500

YEAR	Pr(F_WT_B > Threshold Value) FOR FEASIBLE SIMULATIONS
2011	0.000
2012	0.000
2013	0.000
2014	0.000
2015	0.000
2016	0.000
2017	0.000

TOTAL STOCK BIOMASS (THOUSAND MT)

YEAR	AVG TOTAL B (000 MT)	STD
2011	18.111	3.741
2012	20.732	4.512
2013	20.616	4.228
2014	21.014	4.514
2015	21.414	4.822
2016	22.191	5.080
2017	22.497	5.183

PERCENTILES OF TOTAL STOCK BIOMASS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	11.337	12.755	13.553	15.422	17.844	20.192	22.791	24.761	28.742

2012	12.270	14.094	15.339	17.565	20.345	23.365	26.567	28.811	33.570
2013	12.608	14.430	15.546	17.661	20.212	23.108	26.107	28.210	32.632
2014	12.701	14.656	15.764	17.861	20.488	23.569	26.861	29.114	34.441
2015	12.843	14.737	15.868	18.022	20.792	24.126	27.730	30.188	35.673
2016	13.176	15.154	16.329	18.628	21.534	25.037	28.825	31.424	37.110
2017	13.191	15.280	16.502	18.831	21.853	25.432	29.323	31.963	37.650

ANNUAL PROBABILITY THAT TOTAL STOCK BIOMASS EXCEEDS THRESHOLD: 1000.000 THOUSAND MT

YEAR	Pr(B >= Threshold Value) FOR FEASIBLE SIMULATIONS
2011	0.000
2012	0.000
2013	0.000
2014	0.000
2015	0.000
2016	0.000
2017	0.000

Pr(B >= Threshold Value) AT LEAST ONCE:= 0.000

RECRUITMENT UNITS ARE: 1000.00000000000 FISH

YEAR CLASS	AVG RECRUITMENT	STD
2011	17639.328	10328.986
2012	18197.069	10747.168
2013	17891.845	10553.501
2014	17873.392	10452.373
2015	18153.897	10760.064
2016	18206.436	10713.423
2017	18136.465	10587.538

PERCENTILES OF RECRUITMENT UNITS ARE: 1000.00000000000 FISH

YEAR CLASS	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	4315.357	6209.584	7580.392	10553.358	15171.201	22001.560	30555.561	37156.350	53732.309
2012	4420.909	6406.680	7809.530	10835.600	15649.091	22690.148	31592.539	38400.096	55735.158
2013	4347.482	6263.447	7652.917	10661.725	15437.033	22218.858	31061.182	37781.989	55180.615
2014	4349.855	6300.084	7670.124	10678.530	15451.611	22256.058	30900.453	37791.767	54476.913
2015	4290.295	6335.690	7728.173	10807.721	15640.902	22544.881	31431.396	38422.343	56054.970
2016	4380.673	6402.085	7802.220	10867.675	15726.926	22660.576	31401.934	38550.710	55988.817
2017	4412.987	6384.415	7724.447	10823.822	15629.621	22672.492	31492.687	38412.226	54690.855

LANDINGS (000 MT)

YEAR	AVG LANDINGS (000 MT)	STD
2011	2.230	0.000
2012	3.824	0.933
2013	3.795	0.791
2014	3.675	0.760
2015	3.828	0.912
2016	4.016	0.996
2017	4.100	1.029

PERCENTILES OF LANDINGS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	2.230	2.230	2.230	2.230	2.230	2.230	2.230	2.230	2.230
2012	2.158	2.485	2.707	3.152	3.753	4.349	4.983	5.521	6.532

2013	2.299	2.614	2.821	3.233	3.750	4.257	4.804	5.203	6.047
2014	2.255	2.580	2.777	3.144	3.598	4.111	4.655	5.034	5.870
2015	2.253	2.600	2.803	3.191	3.696	4.317	5.002	5.472	6.679
2016	2.312	2.678	2.892	3.317	3.871	4.552	5.310	5.849	7.051
2017	2.331	2.709	2.936	3.375	3.955	4.656	5.442	5.990	7.210

REALIZED F SERIES

YEAR	AVG F	STD
2011	0.196	0.050
2012	0.315	0.000
2013	0.315	0.000
2014	0.315	0.000
2015	0.315	0.000
2016	0.315	0.000
2017	0.315	0.000

PERCENTILES OF REALIZED F SERIES

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	0.102	0.125	0.139	0.161	0.190	0.224	0.263	0.286	0.331
2012	0.315	0.315	0.315	0.315	0.315	0.315	0.315	0.315	0.315
2013	0.315	0.315	0.315	0.315	0.315	0.315	0.315	0.315	0.315
2014	0.315	0.315	0.315	0.315	0.315	0.315	0.315	0.315	0.315
2015	0.315	0.315	0.315	0.315	0.315	0.315	0.315	0.315	0.315
2016	0.315	0.315	0.315	0.315	0.315	0.315	0.315	0.315	0.315
2017	0.315	0.315	0.315	0.315	0.315	0.315	0.315	0.315	0.315

ANNUAL PROBABILITY FULLY-RECRUITED F EXCEEDS THRESHOLD: 0.420

YEAR	Pr(F > Threshold Value) FOR FEASIBLE SIMULATIONS
2011	0.001
2012	0.000
2013	0.000
2014	0.000
2015	0.000
2016	0.000
2017	0.000

GB Yellowtail Flounder – No Rho Adjustment

No Rho Adjustment

AGEPRO VERSION 3.3

PROJECTION RUN: Fref=0.25

INPUT FILE: C:\DOCUMENTS AND SETTINGS\TAN\MY DOCUMENTS\PROJECTION_FILES\TRAC 2011\GB YTF\POST_SSC_EXAM\NORHO_2659_1150_0.21.IN
OUTPUT FILE: C:\DOCUMENTS AND SETTINGS\TAN\MY DOCUMENTS\PROJECTION_FILES\TRAC 2011\GB YTF\POST_SSC_EXAM\NORHO_2659_1150_0.21.OUT
NUMBER OF SIMULATIONS PER BOOTSTRAP REALIZATION: 10
TOTAL NUMBER OF SIMULATIONS: 10000
NUMBER OF FEASIBLE SIMULATIONS: 10000
PROPORTION OF SIMULATIONS THAT ARE FEASIBLE: 1.00000000000000
NUMBER OF BOOTSTRAP REALIZATIONS: 1000

NUMBER OF RECRUITMENT MODELS: 1
PROBABLE RECRUITMENT MODELS: 15
RECRUITMENT MODELS BY YEAR

YEAR	RECRUITMENT MODELS
2011	15
2012	15
2013	15
2014	15
2015	15
2016	15
2017	15
2018	15
2019	15
2020	15
2021	15
2022	15
2023	15
2024	15
2025	15
2026	15
2027	15
2028	15
2029	15
2030	15
2031	15
2032	15
2033	15
2034	15
2035	15
2036	15
2037	15
2038	15
2039	15
2040	15

RECRUITMENT MODEL PROBABILITIES BY YEAR

YEAR	MODEL PROBABILITY
2011	1.00000000000000

2012	1.00000000000000
2013	1.00000000000000
2014	1.00000000000000
2015	1.00000000000000
2016	1.00000000000000
2017	1.00000000000000
2018	1.00000000000000
2019	1.00000000000000
2020	1.00000000000000
2021	1.00000000000000
2022	1.00000000000000
2023	1.00000000000000
2024	1.00000000000000
2025	1.00000000000000
2026	1.00000000000000
2027	1.00000000000000
2028	1.00000000000000
2029	1.00000000000000
2030	1.00000000000000
2031	1.00000000000000
2032	1.00000000000000
2033	1.00000000000000
2034	1.00000000000000
2035	1.00000000000000
2036	1.00000000000000
2037	1.00000000000000
2038	1.00000000000000
2039	1.00000000000000
2040	1.00000000000000

RECRUITMENT MODEL SAMPLING FREQUENCIES BY YEAR

YEAR	MODEL SAMPLING FREQUENCIES
2011	10000
2012	10000
2013	10000
2014	10000
2015	10000
2016	10000
2017	10000
2018	10000
2019	10000
2020	10000
2021	10000
2022	10000
2023	10000
2024	10000
2025	10000
2026	10000
2027	10000
2028	10000
2029	10000
2030	10000
2031	10000
2032	10000
2033	10000
2034	10000

2035	10000
2036	10000
2037	10000
2038	10000
2039	10000
2040	10000

MIXTURE OF F AND QUOTA BASED CATCHES

YEAR	F	QUOTA (THOUSAND MT)
2011		2.650
2012		1.150
2013	0.210	
2014	0.210	
2015	0.210	
2016	0.210	
2017	0.210	
2018	0.210	
2019	0.210	
2020	0.210	
2021	0.210	
2022	0.210	
2023	0.210	
2024	0.210	
2025	0.210	
2026	0.210	
2027	0.210	
2028	0.210	
2029	0.210	
2030	0.210	
2031	0.210	
2032	0.210	
2033	0.210	
2034	0.210	
2035	0.210	
2036	0.210	
2037	0.210	
2038	0.210	
2039	0.210	
2040	0.210	

SPAWNING STOCK BIOMASS (THOUSAND MT)

YEAR	AVG SSB (000 MT)	STD
2011	8.414	1.512
2012	7.872	1.642
2013	11.896	3.627
2014	18.820	7.407
2015	24.886	9.275
2016	30.391	10.494
2017	35.079	11.311
2018	38.200	11.551
2019	40.295	11.697
2020	41.591	11.756
2021	42.427	11.779
2022	43.046	11.814
2023	43.458	11.905
2024	43.729	11.952

2025	43.916	11.908
2026	44.056	11.850
2027	44.170	11.838
2028	44.194	11.829
2029	44.175	11.837
2030	44.206	11.890
2031	44.266	11.956
2032	44.352	11.949
2033	44.433	11.960
2034	44.476	11.950
2035	44.461	11.899
2036	44.401	11.925
2037	44.365	12.007
2038	44.401	12.054
2039	44.458	12.035
2040	44.436	12.016

PERCENTILES OF SPAWNING STOCK BIOMASS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	5.297	6.119	6.571	7.336	8.381	9.322	10.443	11.002	12.369
2012	4.530	5.294	5.796	6.676	7.807	8.914	9.926	10.774	12.111
2013	5.987	7.173	7.905	9.255	11.079	13.963	17.438	19.132	21.449
2014	8.382	9.962	10.997	12.997	16.914	23.160	30.237	33.404	39.198
2015	10.968	12.912	14.184	17.247	23.316	31.084	37.829	42.079	50.093
2016	13.515	15.988	17.708	22.085	29.064	37.105	44.790	49.561	58.085
2017	15.849	19.084	21.106	26.409	33.935	42.401	50.524	55.574	64.645
2018	17.865	21.327	24.001	29.425	37.083	45.458	53.798	59.165	68.558
2019	19.206	23.103	25.951	31.495	39.306	47.782	56.115	61.311	71.228
2020	20.133	24.365	27.168	32.748	40.535	49.154	57.584	62.639	72.636
2021	21.146	25.194	27.863	33.610	41.329	49.965	58.280	63.578	74.422
2022	21.531	25.640	28.394	34.236	41.915	50.716	58.871	64.227	74.598
2023	22.019	25.944	28.775	34.576	42.351	51.127	59.687	64.551	75.228
2024	22.338	26.121	28.991	34.672	42.632	51.477	59.877	65.019	75.464
2025	22.477	26.379	29.123	35.003	42.855	51.609	59.904	65.020	75.416
2026	22.786	26.562	29.436	35.237	42.893	51.774	60.022	65.190	74.967
2027	22.945	26.695	29.588	35.378	43.032	51.619	60.220	65.668	76.056
2028	22.824	26.668	29.423	35.315	43.172	51.833	60.071	65.655	75.180
2029	22.536	26.702	29.587	35.396	43.190	51.775	60.139	65.363	75.660
2030	22.776	26.872	29.506	35.313	43.112	51.653	60.131	65.853	75.391
2031	22.678	26.726	29.552	35.475	43.162	52.026	60.447	65.807	75.991
2032	22.979	26.788	29.523	35.396	43.376	52.036	60.631	66.170	75.266
2033	22.886	26.794	29.536	35.433	43.314	52.102	60.804	66.018	75.269
2034	22.802	26.806	29.681	35.531	43.400	52.301	60.676	65.872	75.713
2035	22.775	26.903	29.673	35.437	43.441	52.230	60.857	65.687	75.154
2036	22.876	27.132	29.560	35.526	43.218	52.034	60.450	65.811	75.329
2037	22.631	26.711	29.542	35.397	43.161	52.008	60.655	66.155	75.981
2038	22.667	26.738	29.654	35.370	43.297	52.173	60.766	66.098	76.234
2039	22.557	26.702	29.537	35.544	43.291	52.281	60.625	65.981	75.813
2040	22.367	26.682	29.477	35.401	43.431	52.297	60.543	65.917	75.714

ANNUAL PROBABILITY THAT SSB EXCEEDS THRESHOLD: 43.200 THOUSAND MT

YEAR	Pr(SSB >= Threshold Value) FOR FEASIBLE SIMULATIONS
2011	0.000
2012	0.000
2013	0.000
2014	0.001

2015	0.042
2016	0.124
2017	0.231
2018	0.313
2019	0.375
2020	0.415
2021	0.438
2022	0.458
2023	0.471
2024	0.481
2025	0.491
2026	0.491
2027	0.495
2028	0.499
2029	0.500
2030	0.497
2031	0.498
2032	0.504
2033	0.504
2034	0.505
2035	0.508
2036	0.501
2037	0.499
2038	0.504
2039	0.502
2040	0.507

Pr(SSB >= Threshold Value) AT LEAST ONCE:= 0.977

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2011

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	37.3	51.2	58.6	77.0	103.4	132.6	163.2	186.4	222.6
3	422.6	571.9	634.9	792.1	1008.9	1269.6	1559.1	1752.9	2077.3
4	665.4	855.1	989.0	1191.7	1521.8	1823.9	2268.6	2551.9	3027.2
5	1752.8	2084.5	2276.7	2646.2	3081.4	3570.7	4033.3	4414.6	4998.0
6+	1421.2	1690.1	1846.0	2145.6	2498.4	2895.2	3270.3	3579.5	4052.5

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2012

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	145.3	298.1	514.2	828.0	1216.9	1691.0	2030.4	2238.3	2409.1
3	78.2	106.7	121.9	160.9	216.4	277.6	339.7	395.1	465.3
4	341.7	443.6	516.6	653.5	839.6	1074.4	1316.5	1490.0	1786.9
5	504.8	664.7	752.9	932.3	1216.0	1480.9	1857.1	2116.2	2595.7
6+	2088.9	2539.6	2834.8	3432.3	4114.2	4918.1	5745.0	6314.9	7291.0

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2013

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	838.6	1151.2	1258.6	2158.6	2671.3	5849.7	9635.7	10934.3	12653.0
3	302.1	624.3	1072.4	1740.2	2555.7	3547.4	4265.7	4720.5	5084.7

4	68.9	95.1	108.5	142.7	191.1	246.7	304.0	346.8	417.7
5	289.7	373.4	443.5	567.8	729.1	940.2	1158.0	1315.0	1580.2
6+	1933.3	2416.0	2751.7	3284.2	3976.0	4652.3	5365.9	5945.5	6924.2

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2014

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	815.2	1148.4	1239.8	2102.1	2663.5	5767.3	9484.4	10925.6	12532.3
3	1751.2	2404.0	2628.2	4507.5	5578.2	12215.2	20121.0	22832.7	26421.6
4	263.1	543.6	933.8	1515.3	2225.3	3088.8	3714.3	4110.2	4427.4
5	58.5	80.7	92.1	121.2	162.2	209.4	258.1	294.4	354.6
6+	1652.1	2112.0	2334.0	2746.0	3334.8	3868.5	4431.1	4739.5	5470.0

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2015

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	846.1	1147.2	1251.2	2164.0	2668.6	5816.3	9523.9	10925.5	12602.8
3	1702.3	2398.0	2588.9	4389.5	5561.8	12043.2	19805.0	22814.6	26169.7
4	1524.8	2093.2	2288.5	3924.8	4857.1	10636.2	17519.9	19881.1	23006.1
5	223.3	461.5	792.8	1286.4	1889.2	2622.3	3153.3	3489.5	3758.7
6+	1213.7	1512.5	1675.9	1967.7	2353.6	2719.4	3103.2	3311.7	3816.6

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2016

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	809.2	1152.2	1254.9	2165.7	2671.7	5837.5	9737.1	10926.2	12818.1
3	1766.8	2395.5	2612.8	4518.9	5572.6	12145.4	19887.6	22814.3	26316.8
4	1482.3	2088.0	2254.3	3822.1	4842.8	10486.4	17244.8	19865.4	22786.7
5	1294.5	1777.1	1942.8	3332.0	4123.5	9029.8	14873.9	16878.5	19531.5
6+	1416.6	1890.5	2181.0	2683.4	3275.4	3925.0	4543.3	4867.6	5499.0

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2017

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	848.8	1154.6	1283.2	2175.0	2669.3	5833.3	9607.8	10925.6	12749.0
3	1689.8	2406.0	2620.5	4522.3	5579.0	12189.6	20332.8	22815.9	26766.5
4	1538.4	2085.8	2275.0	3934.7	4852.2	10575.3	17316.7	19865.1	22914.8
5	1258.4	1772.7	1913.8	3244.8	4111.4	8902.6	14640.3	16865.1	19345.2
6+	2898.8	3527.1	3979.6	4921.0	6061.1	10326.9	15367.3	17148.2	19384.9

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2018

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	838.8	1155.3	1266.4	2171.7	2674.5	5831.5	9731.6	10927.1	12840.5
3	1772.4	2411.0	2679.6	4541.8	5574.0	12180.9	20062.8	22814.5	26622.2
4	1471.3	2095.0	2281.7	3937.7	4857.8	10613.9	17704.4	19866.5	23306.4
5	1306.0	1770.8	1931.4	3340.5	4119.4	8978.2	14701.4	16864.9	19454.0
6+	4014.2	4892.5	5503.8	6779.7	9696.7	14207.5	18453.4	20675.7	25202.1

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2019

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	862.0	1157.7	1271.7	2165.7	2671.9	5808.5	9500.8	10925.6	12687.1
3	1751.6	2412.4	2644.6	4535.0	5584.8	12177.1	20321.2	22817.7	26813.3
4	1543.3	2099.4	2333.2	3954.6	4853.5	10606.3	17469.3	19865.2	23180.7
5	1249.1	1778.6	1937.1	3343.0	4124.1	9010.9	15030.5	16866.1	19786.4
6+	4974.7	6180.3	6837.6	8440.9	11966.7	16444.6	20744.4	23139.5	27827.2

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2020

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	837.4	1148.6	1248.6	2135.1	2662.1	5793.7	9491.4	10925.3	12639.4
3	1800.0	2417.5	2655.6	4522.4	5579.4	12129.1	19839.3	22814.6	26492.9
4	1525.1	2100.5	2302.7	3948.7	4862.8	10602.9	17694.3	19868.0	23347.1
5	1310.2	1782.3	1980.8	3357.4	4120.5	9004.4	14830.9	16865.0	19679.8
6+	5782.2	6986.0	7878.9	9842.9	13373.1	18044.9	22477.9	24968.5	29732.4

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2021

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	821.7	1153.8	1271.3	2163.4	2671.3	5847.5	9563.3	10925.6	12555.7
3	1748.6	2398.4	2607.2	4458.4	5559.0	12098.2	19819.7	22813.9	26393.2
4	1567.3	2105.0	2312.3	3937.8	4858.1	10561.1	17274.7	19865.3	23068.2
5	1294.8	1783.3	1954.9	3352.4	4128.4	9001.6	15022.0	16867.4	19821.0
6+	6351.2	7805.7	8738.4	10872.8	14389.1	18907.0	23176.2	25745.5	30527.1

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2022

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	843.3	1151.7	1258.3	2163.4	2666.8	5822.1	9719.2	10926.4	12696.2
3	1715.9	2409.4	2654.7	4517.6	5578.2	12210.7	19969.9	22814.6	26218.5
4	1522.6	2088.4	2270.2	3882.0	4840.4	10534.2	17257.6	19864.7	22981.4
5	1330.6	1787.1	1963.1	3343.1	4124.4	8966.1	14665.7	16865.1	19584.2
6+	6853.3	8335.5	9410.5	11561.9	15024.8	19477.3	23934.4	26528.6	30984.0

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2023

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	837.0	1151.7	1262.1	2168.2	2671.4	5855.4	9513.8	10925.9	12714.3
3	1761.0	2405.0	2627.5	4517.7	5568.7	12157.5	20295.4	22816.1	26511.9
4	1494.1	2097.9	2311.6	3933.6	4857.1	10632.2	17388.4	19865.3	22829.2
5	1292.6	1773.0	1927.3	3295.7	4109.4	8943.3	14651.2	16864.6	19510.5
6+	7122.5	8732.9	9734.1	11922.3	15383.3	19956.5	24329.3	26892.0	31419.9

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2024

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	850.2	1150.7	1262.6	2168.2	2668.8	5797.4	9764.9	10926.0	12621.5
3	1747.8	2404.9	2635.4	4527.6	5578.4	12227.0	19866.4	22815.2	26549.6
4	1533.3	2094.1	2287.9	3933.7	4848.8	10585.9	17671.8	19866.7	23084.7
5	1268.4	1781.1	1962.5	3339.5	4123.5	9026.4	14762.2	16865.1	19381.4

6+	7379.1	8925.0	9900.5	12018.9	15583.0	20059.6	24491.3	27024.9	32376.3

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2025

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	844.6	1152.9	1262.9	2165.5	2668.2	5811.9	9629.8	10926.3	12789.0
3	1775.3	2402.9	2636.4	4527.6	5573.0	12106.0	20390.7	22815.5	26355.8
4	1521.9	2094.0	2294.7	3942.3	4857.3	10646.4	17298.3	19865.8	23117.6
5	1301.7	1777.8	1942.3	3339.6	4116.5	8987.1	15002.8	16866.2	19598.2
6+	7594.9	9074.6	10061.0	12309.9	15751.6	20296.3	24732.4	27263.5	31963.5

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2026

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	836.5	1152.7	1265.6	2165.8	2670.3	5823.9	9731.8	10926.5	12794.1
3	1763.7	2407.5	2637.2	4521.9	5571.7	12136.3	20108.6	22816.0	26705.6
4	1545.8	2092.3	2295.6	3942.4	4852.5	10541.0	17754.8	19866.1	22948.8
5	1292.0	1777.7	1948.2	3346.9	4123.7	9038.5	14685.7	16865.5	19626.1
6+	7723.5	9167.5	10156.2	12374.6	15869.7	20528.4	24837.8	27343.2	32287.9

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2027

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	867.4	1153.7	1269.3	2167.5	2673.6	5836.0	9705.6	10925.8	12835.1
3	1746.7	2407.0	2642.9	4522.5	5576.1	12161.2	20321.7	22816.4	26716.3
4	1535.7	2096.3	2296.3	3937.4	4851.5	10567.4	17509.2	19866.5	23253.3
5	1312.3	1776.3	1948.9	3346.9	4119.7	8949.0	15073.3	16865.7	19482.9
6+	7842.3	9239.6	10189.8	12383.9	15981.2	20705.2	24958.8	27741.5	32270.5

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2028

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	844.8	1154.4	1267.1	2169.4	2666.1	5760.3	9566.8	10925.9	12719.4
3	1811.4	2409.2	2650.4	4526.2	5583.0	12186.5	20267.0	22814.9	26802.0
4	1520.9	2095.8	2301.2	3937.9	4855.3	10589.2	17694.7	19866.9	23262.7
5	1303.8	1779.7	1949.5	3342.7	4118.8	8971.4	14864.8	16866.1	19741.4
6+	7922.8	9298.5	10248.2	12478.9	16016.8	20584.9	25018.6	27663.9	32455.8

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2029

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	832.1	1154.0	1270.7	2163.0	2670.3	5828.0	9505.3	10925.9	12721.4
3	1764.0	2410.5	2646.0	4530.1	5567.3	12028.5	19977.2	22815.2	26560.4
4	1577.2	2097.7	2307.8	3941.1	4861.3	10611.2	17647.1	19865.6	23337.3
5	1291.2	1779.3	1953.7	3343.2	4122.0	8989.9	15022.3	16866.4	19749.4
6+	7829.5	9325.3	10298.6	12559.8	16102.8	20649.1	24936.2	27480.4	32244.4

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2030

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

2	843.6	1149.4	1261.0	2162.7	2668.3	5818.0	9668.6	10926.1	12852.5
3	1737.6	2409.8	2653.3	4516.7	5576.1	12169.9	19848.6	22815.2	26564.6
4	1536.0	2098.9	2303.9	3944.5	4847.6	10473.6	17394.7	19865.9	23126.9
5	1339.0	1780.9	1959.3	3345.9	4127.1	9008.6	14981.9	16865.3	19812.7
6+	8012.0	9459.6	10434.1	12608.6	16038.5	20617.4	24953.2	27689.6	32637.0

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2031

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	831.0	1154.3	1267.1	2168.7	2672.7	5866.6	9635.2	10926.3	12746.8
3	1761.5	2400.0	2633.2	4516.1	5571.8	12148.9	20189.7	22815.6	26838.2
4	1513.0	2098.3	2310.3	3932.8	4855.2	10596.7	17282.8	19865.9	23130.5
5	1304.0	1781.9	1956.0	3348.8	4115.4	8891.8	14767.6	16865.6	19634.1
6+	8065.0	9459.1	10418.5	12611.0	16138.0	20701.1	25196.6	27727.5	32309.0

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2032

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	867.3	1158.1	1288.9	2173.2	2675.7	5856.6	9655.4	10926.1	12734.4
3	1735.3	2410.3	2646.0	4528.5	5581.1	12250.4	20119.9	22815.9	26617.5
4	1533.8	2089.8	2292.8	3932.3	4851.5	10578.4	17579.8	19866.2	23368.8
5	1284.5	1781.4	1961.4	3338.8	4122.0	8996.3	14672.6	16865.5	19637.2
6+	7920.4	9393.5	10383.3	12569.3	16115.5	20639.8	24942.9	27648.2	32477.9

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2033

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	831.9	1149.9	1255.5	2161.7	2673.1	5877.0	9649.0	10925.9	12725.4
3	1811.1	2418.2	2691.5	4538.1	5587.4	12229.5	20162.1	22815.6	26591.6
4	1511.0	2098.7	2303.9	3943.1	4859.7	10666.8	17519.0	19866.5	23176.6
5	1302.1	1774.2	1946.6	3338.4	4118.8	8980.8	14924.8	16865.8	19839.4
6+	7990.8	9425.0	10392.4	12562.9	16109.5	20566.5	24999.3	27766.5	32668.6

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2034

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	840.2	1154.4	1269.7	2163.6	2671.7	5858.1	9806.4	10926.0	12766.4
3	1737.1	2401.3	2621.6	4514.0	5581.8	12272.3	20148.9	22815.2	26572.9
4	1577.0	2105.6	2343.6	3951.5	4865.1	10648.6	17555.7	19866.2	23154.1
5	1282.8	1781.8	1956.0	3347.6	4125.7	9055.8	14873.1	16866.1	19676.3
6+	7931.5	9475.6	10411.6	12578.6	16065.0	20668.6	25106.2	27792.6	32446.7

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2035

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	841.2	1145.9	1245.8	2160.5	2665.7	5828.6	9567.9	10925.7	12675.9
3	1754.5	2410.6	2651.4	4517.9	5578.9	12232.8	20477.4	22815.4	26658.5
4	1512.5	2090.8	2282.7	3930.5	4860.2	10685.8	17544.2	19865.8	23137.8
5	1338.8	1787.6	1989.6	3354.7	4130.4	9040.4	14904.3	16865.9	19657.2
6+	7958.2	9382.6	10357.5	12554.6	16246.1	20810.0	25164.2	27924.7	32446.2

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2036

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	831.4	1154.4	1268.1	2165.8	2670.3	5792.7	9645.7	10925.6	12788.2
3	1756.5	2392.8	2601.5	4511.5	5566.5	12171.2	19979.5	22814.8	26469.5
4	1527.7	2099.0	2308.6	3933.9	4857.7	10651.4	17830.3	19866.0	23212.4
5	1284.1	1775.1	1937.9	3336.9	4126.2	9071.9	14894.5	16865.5	19643.3
6+	7936.6	9454.3	10396.0	12663.8	16304.9	20814.5	25170.2	27869.8	32490.3

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2037

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	821.1	1152.6	1261.2	2161.1	2672.0	5856.5	9613.4	10925.1	12671.1
3	1736.0	2410.7	2648.0	4522.6	5576.1	12096.2	20141.8	22814.5	26704.0
4	1529.4	2083.5	2265.2	3928.3	4846.9	10597.8	17396.7	19865.5	23047.8
5	1297.0	1782.0	1960.0	3339.8	4124.0	9042.8	15137.4	16865.7	19706.6
6+	7929.9	9437.3	10438.3	12647.1	16244.6	20808.9	25301.3	27787.1	32723.1

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2038

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	850.8	1155.3	1265.6	2169.6	2671.7	5898.7	9672.2	10925.6	12714.9
3	1714.6	2406.8	2633.7	4512.7	5579.7	12229.3	20074.3	22813.6	26459.4
4	1511.6	2099.0	2305.7	3938.0	4855.3	10532.5	17538.1	19865.2	23251.9
5	1298.5	1768.8	1923.1	3335.0	4114.9	8997.2	14769.3	16865.3	19566.9
6+	8016.3	9465.1	10410.0	12666.2	16277.3	20773.1	25211.8	27823.0	32725.4

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2039

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	830.6	1151.3	1268.5	2167.0	2671.1	5841.8	9647.9	10926.0	12681.8
3	1776.5	2412.4	2642.9	4530.4	5579.0	12317.5	20197.2	22814.6	26550.9
4	1493.0	2095.6	2293.2	3929.3	4858.4	10648.4	17479.3	19864.4	23039.0
5	1283.3	1782.0	1957.5	3343.2	4122.0	8941.8	14889.3	16865.0	19740.2
6+	7978.7	9458.8	10418.1	12654.5	16158.0	20856.5	25098.0	27600.3	32865.8

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2040

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	811.3	1147.0	1256.7	2157.9	2666.4	5821.7	9645.1	10926.1	12676.9
3	1734.4	2404.0	2648.9	4525.1	5577.8	12198.8	20146.6	22815.3	26481.8
4	1546.9	2100.5	2301.2	3944.8	4857.8	10725.2	17586.3	19865.3	23118.6
5	1267.5	1779.1	1946.9	3335.9	4124.6	9040.2	14839.5	16864.4	19559.4
6+	7993.7	9481.6	10422.7	12580.1	16143.4	20738.6	25170.2	27881.7	32564.1

MEAN BIOMASS (THOUSAND MT) FOR AGES: 1 TO 6

YEAR	AVG MEAN B (000 MT)	STD
2011	9.630	1.659
2012	13.565	3.839
2013	20.874	7.657
2014	27.788	10.019

2015	33.802	11.461
2016	39.197	12.389
2017	43.769	12.949
2018	46.793	13.200
2019	48.727	13.347
2020	49.995	13.386
2021	50.878	13.432
2022	51.492	13.520
2023	51.884	13.577
2024	52.135	13.552
2025	52.336	13.473
2026	52.491	13.456
2027	52.546	13.461
2028	52.544	13.459
2029	52.574	13.501
2030	52.648	13.577
2031	52.748	13.594
2032	52.826	13.611
2033	52.883	13.597
2034	52.874	13.542
2035	52.826	13.551
2036	52.790	13.641
2037	52.826	13.704
2038	52.883	13.702
2039	52.860	13.670
2040	52.740	13.619

PERCENTILES OF MEAN STOCK BIOMASS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	6.259	7.023	7.522	8.413	9.572	10.683	11.729	12.578	13.981
2012	7.174	8.504	9.288	10.751	12.753	15.756	19.372	21.194	23.511
2013	9.708	11.491	12.692	14.893	19.026	25.417	32.499	35.913	41.794
2014	12.593	14.818	16.212	19.590	26.088	34.484	41.680	46.314	55.006
2015	15.342	17.987	19.909	24.728	32.354	41.200	49.567	54.796	64.358
2016	18.132	21.600	23.879	29.659	37.969	47.242	55.965	61.627	71.453
2017	20.759	24.806	27.898	34.016	42.618	51.939	61.172	67.274	77.620
2018	22.640	27.146	30.502	36.982	45.831	55.269	64.346	70.445	82.020
2019	23.947	29.027	32.338	38.796	47.506	57.303	66.627	72.568	84.478
2020	25.224	30.090	33.443	40.121	48.787	58.476	67.747	74.013	86.289
2021	25.950	30.929	34.106	40.968	49.724	59.763	68.746	74.613	86.193
2022	26.497	31.450	34.778	41.519	50.236	60.147	69.830	75.229	87.047
2023	27.097	31.671	35.012	41.767	50.747	60.611	70.240	75.855	87.921
2024	27.153	31.919	35.275	42.042	50.967	60.979	70.302	75.966	87.582
2025	27.617	32.243	35.622	42.349	51.182	61.081	70.364	76.214	87.403
2026	27.802	32.400	35.766	42.615	51.341	61.018	70.604	76.476	88.623
2027	27.762	32.256	35.667	42.745	51.456	61.267	70.675	76.736	87.602
2028	27.307	32.346	35.862	42.607	51.537	61.143	70.656	76.535	88.109
2029	27.623	32.612	35.771	42.562	51.508	61.185	70.572	76.929	87.789
2030	27.529	32.340	35.951	42.719	51.399	61.376	71.130	76.696	88.572
2031	27.873	32.460	35.788	42.704	51.642	61.504	71.022	77.469	88.429
2032	27.639	32.533	35.756	42.682	51.705	61.567	71.351	77.232	87.687
2033	27.681	32.528	35.970	42.759	51.747	61.701	71.352	76.661	87.491
2034	27.734	32.565	35.964	42.727	51.724	61.808	71.303	76.804	87.641
2035	27.804	32.717	35.985	42.813	51.541	61.489	71.235	76.878	87.541
2036	27.526	32.450	35.853	42.819	51.578	61.468	71.131	77.342	88.528
2037	27.677	32.529	35.904	42.624	51.751	61.649	71.435	77.296	88.825

2038	27.439	32.503	35.838	42.773	51.644	61.863	71.232	77.230	88.623
2039	27.223	32.453	35.794	42.740	51.777	61.769	71.137	76.997	88.062
2040	27.527	32.563	35.820	42.768	51.508	61.569	71.313	77.207	87.681

ANNUAL PROBABILITY THAT MEAN BIOMASS EXCEEDS THRESHOLD: 0.000 THOUSAND MT

YEAR	Pr(MEAN B >= Threshold Value) FOR FEASIBLE SIMULATIONS
2011	1.000
2012	1.000
2013	1.000
2014	1.000
2015	1.000
2016	1.000
2017	1.000
2018	1.000
2019	1.000
2020	1.000
2021	1.000
2022	1.000
2023	1.000
2024	1.000
2025	1.000
2026	1.000
2027	1.000
2028	1.000
2029	1.000
2030	1.000
2031	1.000
2032	1.000
2033	1.000
2034	1.000
2035	1.000
2036	1.000
2037	1.000
2038	1.000
2039	1.000
2040	1.000

Pr(MEAN B >= Threshold Value) AT LEAST ONCE:= 1.000

F WEIGHTED BY MEAN BIOMASS FOR AGES: 1 TO 6

YEAR	AVG F_WT_B	STD
2011	0.284	0.050
2012	0.091	0.025
2013	0.096	0.022
2014	0.114	0.023
2015	0.130	0.025
2016	0.140	0.023
2017	0.147	0.022
2018	0.152	0.021
2019	0.154	0.020
2020	0.156	0.020
2021	0.157	0.019
2022	0.157	0.019
2023	0.158	0.019
2024	0.158	0.019

2025	0.158	0.019
2026	0.158	0.019
2027	0.159	0.019
2028	0.159	0.019
2029	0.159	0.019
2030	0.158	0.019
2031	0.158	0.019
2032	0.158	0.019
2033	0.158	0.019
2034	0.159	0.019
2035	0.159	0.019
2036	0.159	0.019
2037	0.159	0.019
2038	0.158	0.019
2039	0.159	0.019
2040	0.159	0.019

PERCENTILES OF F WEIGHTED BY MEAN BIOMASS FOR AGES: 1 TO 6

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	0.189	0.210	0.226	0.248	0.277	0.315	0.352	0.377	0.419
2012	0.049	0.054	0.059	0.073	0.090	0.107	0.124	0.135	0.160
2013	0.057	0.064	0.069	0.078	0.095	0.113	0.126	0.133	0.145
2014	0.067	0.076	0.082	0.096	0.116	0.133	0.146	0.151	0.158
2015	0.076	0.088	0.095	0.112	0.132	0.149	0.161	0.167	0.176
2016	0.087	0.099	0.107	0.124	0.142	0.158	0.169	0.174	0.181
2017	0.093	0.108	0.116	0.132	0.150	0.164	0.174	0.179	0.185
2018	0.099	0.114	0.122	0.137	0.154	0.168	0.177	0.181	0.187
2019	0.104	0.118	0.126	0.141	0.157	0.170	0.178	0.182	0.188
2020	0.106	0.120	0.128	0.142	0.159	0.172	0.180	0.183	0.189
2021	0.107	0.121	0.130	0.143	0.159	0.172	0.180	0.184	0.189
2022	0.108	0.122	0.130	0.144	0.160	0.173	0.180	0.184	0.190
2023	0.110	0.123	0.131	0.144	0.160	0.173	0.180	0.184	0.190
2024	0.110	0.124	0.131	0.145	0.161	0.173	0.181	0.184	0.190
2025	0.110	0.123	0.131	0.145	0.161	0.173	0.181	0.185	0.190
2026	0.110	0.123	0.131	0.145	0.161	0.173	0.181	0.185	0.190
2027	0.110	0.124	0.132	0.146	0.161	0.173	0.181	0.185	0.191
2028	0.112	0.125	0.132	0.146	0.162	0.174	0.181	0.185	0.190
2029	0.110	0.124	0.132	0.146	0.161	0.173	0.181	0.185	0.190
2030	0.111	0.124	0.132	0.145	0.161	0.173	0.181	0.184	0.190
2031	0.110	0.124	0.131	0.145	0.161	0.173	0.181	0.184	0.190
2032	0.111	0.124	0.132	0.145	0.161	0.173	0.181	0.184	0.190
2033	0.110	0.124	0.132	0.145	0.161	0.174	0.181	0.185	0.190
2034	0.111	0.124	0.131	0.145	0.161	0.174	0.182	0.185	0.190
2035	0.111	0.124	0.132	0.146	0.162	0.174	0.181	0.185	0.191
2036	0.110	0.125	0.133	0.146	0.161	0.174	0.181	0.184	0.190
2037	0.112	0.124	0.132	0.145	0.161	0.174	0.181	0.185	0.190
2038	0.110	0.124	0.132	0.145	0.161	0.174	0.181	0.185	0.190
2039	0.109	0.123	0.131	0.146	0.162	0.174	0.181	0.185	0.190
2040	0.112	0.124	0.132	0.146	0.162	0.174	0.181	0.185	0.191

ANNUAL PROBABILITY THAT F WEIGHTED BY MEAN BIOMASS EXCEEDS THRESHOLD: 0.000

YEAR	Pr(F_WT_B > Threshold Value) FOR FEASIBLE SIMULATIONS
2011	1.000
2012	1.000
2013	1.000
2014	1.000

2015	1.000
2016	1.000
2017	1.000
2018	1.000
2019	1.000
2020	1.000
2021	1.000
2022	1.000
2023	1.000
2024	1.000
2025	1.000
2026	1.000
2027	1.000
2028	1.000
2029	1.000
2030	1.000
2031	1.000
2032	1.000
2033	1.000
2034	1.000
2035	1.000
2036	1.000
2037	1.000
2038	1.000
2039	1.000
2040	1.000

TOTAL STOCK BIOMASS (THOUSAND MT)

YEAR	AVG TOTAL B (000 MT)	STD
2011	9.537	1.501
2012	7.371	1.559
2013	8.536	1.981
2014	15.648	6.903
2015	21.866	9.058
2016	27.748	10.394
2017	33.323	11.638
2018	36.973	11.983
2019	39.498	12.155
2020	41.111	12.211
2021	42.044	12.279
2022	42.783	12.258
2023	43.254	12.356
2024	43.584	12.430
2025	43.800	12.439
2026	43.954	12.371
2027	44.079	12.338
2028	44.175	12.324
2029	44.118	12.300
2030	44.151	12.356
2031	44.180	12.418
2032	44.262	12.463
2033	44.356	12.406
2034	44.418	12.480
2035	44.447	12.405
2036	44.383	12.376

2037	44.332	12.452
2038	44.314	12.533
2039	44.402	12.541
2040	44.419	12.512

PERCENTILES OF TOTAL STOCK BIOMASS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	6.404	7.245	7.698	8.460	9.483	10.456	11.546	12.107	13.532
2012	4.235	4.976	5.460	6.259	7.344	8.319	9.501	10.059	11.452
2013	4.434	5.570	6.010	7.090	8.450	9.828	11.079	11.848	13.669
2014	6.856	8.251	9.109	10.656	12.949	19.443	27.366	30.220	33.822
2015	9.130	10.863	12.045	14.392	19.856	28.345	34.354	38.617	47.387
2016	11.929	14.119	15.596	19.022	26.388	34.453	42.122	46.858	55.976
2017	14.426	17.155	18.953	24.235	32.178	40.696	49.278	54.403	64.516
2018	16.380	19.893	22.109	27.777	35.788	44.726	53.287	58.776	68.088
2019	18.173	21.720	24.542	30.387	38.409	47.185	55.939	61.399	71.769
2020	19.184	23.272	25.994	31.947	39.980	48.991	57.709	62.922	73.656
2021	19.905	24.092	27.028	32.723	40.860	49.949	58.685	64.116	74.968
2022	20.797	24.867	27.589	33.632	41.636	50.620	59.509	64.784	75.442
2023	21.098	25.168	27.996	33.977	42.023	51.271	60.100	65.023	76.328
2024	21.723	25.517	28.224	34.241	42.413	51.600	60.391	66.059	76.328
2025	21.790	25.607	28.420	34.491	42.613	51.842	60.466	65.951	76.861
2026	21.877	25.845	28.465	34.506	42.858	52.103	60.721	66.064	76.200
2027	22.212	26.067	28.860	34.713	42.855	51.923	60.625	66.406	77.306
2028	22.554	26.103	28.826	34.967	43.124	52.158	60.856	66.939	76.462
2029	22.160	25.950	28.855	34.837	42.992	52.023	60.858	65.866	76.664
2030	22.070	26.075	28.820	34.929	43.102	51.946	60.741	66.215	76.835
2031	22.006	26.179	28.931	34.800	43.006	52.071	61.201	66.284	77.610
2032	22.276	26.123	28.734	34.881	43.159	52.260	61.261	66.679	76.943
2033	22.318	26.240	28.915	35.006	43.178	52.357	61.467	66.883	76.975
2034	22.168	26.155	28.925	35.030	43.199	52.519	61.381	66.870	77.166
2035	22.174	26.138	29.040	35.135	43.392	52.373	61.353	66.820	76.227
2036	22.244	26.215	29.135	35.009	43.246	52.513	60.888	66.332	77.085
2037	22.302	26.340	28.819	34.906	43.149	52.374	61.218	66.816	77.571
2038	22.336	26.071	28.856	35.034	43.031	52.289	61.282	66.984	77.557
2039	22.099	26.033	28.809	34.971	43.285	52.407	61.523	66.655	77.315
2040	21.997	25.905	28.768	35.087	43.377	52.526	61.410	66.800	77.553

ANNUAL PROBABILITY THAT TOTAL STOCK BIOMASS EXCEEDS THRESHOLD: 0.000 THOUSAND MT

YEAR	Pr(B >= Threshold Value) FOR FEASIBLE SIMULATIONS
2011	1.000
2012	1.000
2013	1.000
2014	1.000
2015	1.000
2016	1.000
2017	1.000
2018	1.000
2019	1.000
2020	1.000
2021	1.000
2022	1.000
2023	1.000
2024	1.000
2025	1.000
2026	1.000

2027	1.000
2028	1.000
2029	1.000
2030	1.000
2031	1.000
2032	1.000
2033	1.000
2034	1.000
2035	1.000
2036	1.000
2037	1.000
2038	1.000
2039	1.000
2040	1.000

Pr(B >= Threshold Value) AT LEAST ONCE:= 1.000

RECRUITMENT UNITS ARE: 1000.00000000000 FISH

YEAR CLASS	AVG RECRUITMENT	STD
2011	39019.196	28990.321
2012	38246.491	28675.301
2013	38759.310	28848.352
2014	39226.159	29193.678
2015	39015.768	28956.038
2016	39301.197	29217.726
2017	38881.723	28700.215
2018	38390.513	28833.363
2019	39023.987	28868.223
2020	38978.034	29166.332
2021	39079.530	28950.768
2022	38892.919	29052.793
2023	38976.775	29103.324
2024	39065.380	29196.806
2025	39130.751	29053.828
2026	38557.098	28753.987
2027	38964.266	28878.825
2028	38978.895	29073.805
2029	39321.988	29091.314
2030	39309.032	28993.072
2031	39251.663	29039.566
2032	39128.327	29187.736
2033	38810.575	28982.166
2034	38880.716	29002.097
2035	39018.159	28955.870
2036	39485.752	29197.761
2037	39155.565	29205.289
2038	38792.920	29000.091
2039	38351.608	28617.199
2040	38943.367	29047.720

PERCENTILES OF RECRUITMENT UNITS ARE: 1000.00000000000 FISH

YEAR CLASS	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	7737.782	10616.754	11610.663	19914.645	24644.237	53969.907	88920.867	100858.131	116694.316

2012	7525.727	10601.347	11445.283	19405.387	24587.739	53241.054	87554.724	100859.943	115692.041
2013	7810.610	10589.959	11550.627	19977.397	24635.431	53692.859	87920.127	100858.472	116342.586
2014	7470.300	10636.491	11584.687	19992.429	24664.004	53888.411	89888.346	100865.516	118330.558
2015	7835.477	10658.787	11846.165	20078.390	24641.989	53849.837	88694.692	100859.287	117692.723
2016	7743.371	10664.847	11691.170	20048.409	24689.513	53833.000	89837.132	100873.409	118537.307
2017	7957.312	10687.419	11739.940	19992.828	24665.477	53620.724	87706.673	100859.769	117121.234
2018	7730.351	10602.980	11526.222	19709.717	24575.511	53484.180	87619.971	100856.586	116680.471
2019	7585.606	10651.496	11736.221	19971.686	24660.361	53981.524	88283.914	100859.767	115908.073
2020	7784.913	10632.183	11615.899	19971.868	24618.166	53746.525	89722.794	100866.626	117205.043
2021	7726.855	10631.546	11650.748	20015.758	24661.369	54053.878	87826.321	100862.294	117371.910
2022	7848.219	10623.001	11655.313	20016.022	24637.206	53518.630	90144.291	100863.626	116515.081
2023	7797.186	10643.410	11658.583	19990.680	24631.768	53652.601	88897.123	100865.940	118061.246
2024	7721.813	10640.775	11683.654	19993.450	24651.143	53763.015	89838.971	100867.738	118108.861
2025	8007.722	10650.535	11717.105	20009.590	24681.498	53874.840	89597.480	100861.081	118487.365
2026	7798.345	10656.433	11697.525	20026.929	24611.974	53176.120	88315.980	100862.687	117419.251
2027	7681.721	10653.408	11730.002	19967.580	24650.941	53801.255	87747.682	100862.454	117437.877
2028	7787.312	10610.241	11641.148	19964.960	24631.953	53708.613	89255.790	100864.141	118647.542
2029	7671.512	10655.648	11697.446	20020.000	24673.326	54157.290	88947.156	100865.721	117671.898
2030	8006.702	10690.566	11898.784	20062.266	24701.122	54064.838	89133.494	100864.417	117557.447
2031	7679.255	10615.576	11589.680	19955.678	24676.313	54253.752	89075.131	100862.305	117474.770
2032	7756.529	10656.837	11721.335	19973.026	24663.406	54079.211	90527.635	100863.177	117853.309
2033	7765.272	10578.270	11501.033	19944.786	24608.613	53806.969	88326.323	100860.824	117017.658
2034	7674.628	10657.179	11706.410	19993.828	24651.208	53475.269	89043.874	100859.220	118054.078
2035	7580.087	10639.958	11643.143	19949.828	24666.804	54063.926	88745.629	100855.311	116973.012
2036	7853.706	10664.834	11683.805	20028.233	24663.727	54453.762	89288.610	100859.727	117377.341
2037	7667.497	10627.762	11710.166	20004.848	24658.478	53928.976	89064.953	100863.154	117072.053
2038	7489.963	10588.492	11601.498	19920.801	24614.489	53743.277	89038.263	100864.479	117026.631
2039	7545.411	10647.550	11618.015	19987.165	24635.134	53042.021	87063.259	100860.719	117018.790
2040	7833.248	10644.706	11664.636	19960.444	24645.630	53725.230	89465.911	100863.742	117251.613

LANDINGS (000 MT)

YEAR	AVG LANDINGS (000 MT)	STD
2011	2.650	0.000
2012	1.150	0.000
2013	1.889	0.449
2014	3.126	1.213
2015	4.365	1.666
2016	5.481	1.936
2017	6.438	2.129
2018	7.074	2.188
2019	7.505	2.214
2020	7.779	2.225
2021	7.946	2.233
2022	8.068	2.236
2023	8.151	2.251
2024	8.209	2.265
2025	8.247	2.262
2026	8.274	2.250
2027	8.296	2.244
2028	8.307	2.243
2029	8.302	2.242
2030	8.306	2.252
2031	8.314	2.263
2032	8.329	2.267
2033	8.346	2.264
2034	8.357	2.267

2035	8.359	2.259
2036	8.348	2.259
2037	8.339	2.272
2038	8.339	2.283
2039	8.352	2.282
2040	8.353	2.279

PERCENTILES OF LANDINGS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	2.650	2.650	2.650	2.650	2.650	2.650	2.650	2.650	2.650
2012	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150
2013	1.007	1.225	1.340	1.566	1.852	2.174	2.498	2.701	3.029
2014	1.447	1.723	1.897	2.225	2.751	3.784	5.090	5.627	6.381
2015	1.925	2.285	2.517	3.002	4.011	5.539	6.666	7.436	8.991
2016	2.448	2.897	3.196	3.891	5.217	6.721	8.166	9.052	10.707
2017	2.914	3.457	3.824	4.772	6.223	7.801	9.379	10.282	12.078
2018	3.268	3.923	4.368	5.404	6.859	8.449	10.052	11.085	12.772
2019	3.577	4.287	4.781	5.825	7.325	8.897	10.505	11.491	13.394
2020	3.737	4.551	5.040	6.104	7.590	9.206	10.786	11.754	13.760
2021	3.919	4.680	5.204	6.274	7.741	9.383	10.950	11.925	14.013
2022	4.044	4.802	5.294	6.398	7.847	9.541	11.106	12.046	14.002
2023	4.130	4.845	5.388	6.454	7.918	9.595	11.201	12.110	14.146
2024	4.187	4.907	5.412	6.494	8.012	9.662	11.286	12.238	14.201
2025	4.220	4.932	5.446	6.549	8.036	9.709	11.294	12.299	14.274
2026	4.266	4.969	5.474	6.583	8.068	9.755	11.301	12.321	14.106
2027	4.314	5.004	5.525	6.611	8.082	9.730	11.332	12.316	14.287
2028	4.303	5.000	5.511	6.625	8.106	9.745	11.323	12.397	14.202
2029	4.281	4.988	5.520	6.630	8.112	9.750	11.369	12.284	14.239
2030	4.268	5.020	5.516	6.625	8.106	9.729	11.326	12.378	14.207
2031	4.264	5.011	5.544	6.611	8.112	9.761	11.391	12.358	14.390
2032	4.316	5.012	5.502	6.610	8.129	9.790	11.394	12.465	14.292
2033	4.308	5.026	5.528	6.635	8.150	9.807	11.461	12.456	14.201
2034	4.272	5.025	5.554	6.655	8.155	9.845	11.431	12.415	14.271
2035	4.310	5.031	5.557	6.647	8.162	9.827	11.435	12.354	14.151
2036	4.309	5.047	5.532	6.644	8.130	9.818	11.389	12.389	14.291
2037	4.252	5.030	5.531	6.637	8.121	9.790	11.418	12.425	14.360
2038	4.279	5.030	5.520	6.628	8.128	9.799	11.424	12.442	14.382
2039	4.253	5.001	5.524	6.638	8.141	9.830	11.443	12.396	14.282
2040	4.224	5.004	5.511	6.638	8.148	9.833	11.427	12.462	14.302

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2011

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	1350.5	2751.8	4717.0	7602.4	11223.8	15584.8	18678.1	20570.4	22150.8
2	283.6	392.5	447.1	586.6	786.2	1008.8	1245.7	1421.2	1681.0
3	1229.1	1694.1	1909.6	2366.6	2988.8	3745.8	4565.2	5118.1	6099.9
4	1608.7	2075.2	2393.6	2883.2	3569.6	4292.6	5277.4	5897.4	6969.9
5	3481.3	4044.6	4368.2	4977.2	5686.8	6490.4	7269.9	7852.0	8760.5
6+	2126.4	2470.5	2668.2	3040.2	3473.6	3964.4	4440.6	4796.2	5351.1

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2012

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7737.8	10616.8	11610.7	19914.6	24644.2	53969.9	88920.9	100858.1	116694.3
2	1097.8	2240.2	3846.3	6197.0	9121.5	12696.1	15211.6	16754.9	18045.3
3	217.3	298.6	340.0	447.7	602.3	771.3	946.2	1088.7	1303.0

4	765.3	1011.6	1139.1	1437.6	1847.3	2344.7	2892.3	3242.0	3884.7
5	879.4	1150.5	1312.9	1612.8	2096.0	2526.9	3169.6	3567.9	4376.6
6+	2786.2	3388.3	3753.6	4474.5	5335.0	6310.9	7312.8	8032.1	9231.4

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2013

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7525.7	10601.3	11445.3	19405.4	24587.7	53241.1	87554.7	100859.9	115692.0
2	6317.1	8672.1	9480.9	16259.9	20122.4	44064.6	72583.3	82365.3	95311.9
3	854.6	1765.9	3033.3	4922.1	7228.4	10033.5	12065.2	13351.3	14381.6
4	154.3	212.9	242.9	319.5	427.7	552.2	680.5	776.3	935.0
5	506.8	653.3	775.9	993.5	1275.7	1645.1	2026.2	2300.9	2764.9
6+	2548.3	3184.5	3627.0	4329.0	5240.9	6132.3	7073.0	7836.8	9126.9

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2014

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7810.6	10590.0	11550.6	19977.4	24635.4	53692.9	87920.1	100858.5	116342.6
2	6140.9	8650.5	9339.2	15834.5	20063.2	43443.9	71443.3	82300.1	94402.9
3	4953.1	6799.5	7433.7	12748.9	15777.3	34549.6	56910.2	64580.0	74731.0
4	588.9	1216.8	2090.1	3391.7	4980.9	6913.8	8313.8	9200.0	9909.9
5	102.4	141.3	161.2	212.0	283.9	366.5	451.6	515.2	620.5
6+	2177.6	2783.8	3076.5	3619.6	4395.6	5099.2	5840.8	6247.2	7210.1

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2015

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7470.3	10636.5	11584.7	19992.4	24664.0	53888.4	89888.3	100865.5	118330.6
2	6373.3	8641.2	9425.1	16301.2	20102.1	43812.5	71741.5	82298.9	94933.7
3	4814.9	6782.6	7322.5	12415.3	15730.9	34062.9	56016.4	64528.9	74018.3
4	3413.0	4685.3	5122.3	8784.9	10871.7	23807.1	39215.2	44500.2	51495.0
5	390.8	807.5	1387.1	2250.9	3305.6	4588.3	5517.4	6105.6	6576.7
6+	1599.8	1993.6	2209.0	2593.7	3102.3	3584.5	4090.4	4365.2	5030.7

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2016

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7835.5	10658.8	11846.2	20078.4	24642.0	53849.8	88694.7	100859.3	117692.7
2	6095.6	8679.2	9452.9	16313.5	20125.4	43972.1	73347.5	82304.7	96555.9
3	4997.1	6775.3	7389.9	12781.3	15761.4	34352.0	56250.2	64527.9	74434.5
4	3317.8	4673.7	5045.8	8555.0	10839.7	23471.8	38599.3	44465.0	51003.9
5	2265.0	3109.4	3399.4	5830.1	7215.0	15799.6	26025.2	29532.6	34174.7
6+	1867.3	2491.9	2874.8	3537.1	4317.3	5173.6	5988.6	6416.1	7248.3

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2017

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7743.4	10664.8	11691.2	20048.4	24689.5	53833.0	89837.1	100873.4	118537.3
2	6393.6	8697.4	9666.3	16383.7	20107.5	43940.6	72373.5	82299.6	96035.4
3	4779.4	6805.1	7411.7	12790.9	15779.7	34477.1	57509.4	64532.4	75706.4
4	3443.4	4668.7	5092.2	8807.2	10860.8	23671.0	38760.4	44464.4	51290.7
5	2201.8	3101.7	3348.6	5677.6	7193.8	15577.1	25616.4	29509.2	33848.7
6+	3820.9	4649.2	5245.6	6486.5	7989.3	13612.2	20256.0	22603.5	25551.6

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2018

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7957.3	10687.4	11739.9	19992.8	24665.5	53620.7	87706.7	100859.8	117121.2
2	6318.5	8702.3	9539.8	16359.2	20146.3	43926.9	73305.7	82311.1	96724.6
3	5013.0	6819.4	7579.0	12845.9	15765.6	34452.4	56745.7	64528.5	75298.3
4	3293.3	4689.2	5107.2	8813.8	10873.4	23757.2	39628.1	44467.5	52167.1
5	2285.2	3098.4	3379.4	5844.9	7207.7	15709.3	25723.3	29508.8	34039.1
6+	5291.2	6448.9	7254.7	8936.4	12781.4	18727.3	24323.8	27253.1	33219.4

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2019

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7730.4	10603.0	11526.2	19709.7	24575.5	53484.2	87620.0	100856.6	116680.5
2	6493.0	8720.8	9579.6	16313.8	20126.6	43753.7	71567.3	82300.0	95569.1
3	4954.1	6823.2	7479.9	12826.7	15796.0	34441.7	57476.6	64537.5	75838.6
4	3454.3	4699.0	5222.5	8851.7	10863.6	23740.2	39101.9	44464.7	51885.9
5	2185.6	3112.0	3389.4	5849.3	7216.1	15766.5	26299.2	29510.9	34620.7
6+	6557.2	8146.4	9012.8	11126.2	15773.6	21676.0	27343.7	30500.7	36679.6

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2020

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7585.6	10651.5	11736.2	19971.7	24660.4	53981.5	88283.9	100859.8	115908.1
2	6307.8	8651.9	9405.2	16082.8	20053.2	43642.3	71496.5	82297.4	95209.4
3	5091.0	6837.7	7511.1	12791.2	15780.7	34305.8	56113.6	64528.8	74932.6
4	3413.7	4701.7	5154.2	8838.5	10884.6	23732.8	39605.5	44471.0	52258.2
5	2292.5	3118.5	3465.9	5874.5	7209.7	15755.2	25950.0	29509.0	34434.1
6+	7621.7	9208.4	10385.4	12974.2	17627.4	23785.4	29628.6	32911.5	39190.9

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2021

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7784.9	10632.2	11615.9	19971.9	24618.2	53746.5	89722.8	100866.6	117205.0
2	6189.7	8691.5	9576.6	16296.6	20122.5	44048.1	72038.3	82300.0	94579.2
3	4945.8	6783.6	7374.3	12610.0	15723.1	34218.5	56058.1	64526.7	74650.6
4	3508.1	4711.6	5175.7	8814.0	10874.0	23639.2	38666.3	44464.9	51634.0
5	2265.5	3120.3	3420.6	5865.7	7223.6	15750.3	26284.2	29513.2	34681.2
6+	8371.6	10288.8	11518.3	14331.7	18966.6	24921.7	30549.0	33935.7	40238.4

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2022

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7726.9	10631.5	11650.7	20015.8	24661.4	54053.9	87826.3	100862.3	117371.9
2	6352.4	8675.7	9478.4	16296.7	20088.0	43856.3	73212.4	82305.6	95637.5
3	4853.2	6814.7	7508.7	12777.6	15777.4	34536.7	56482.9	64528.8	74156.5
4	3408.0	4674.4	5081.4	8689.2	10834.3	23579.0	38628.1	44463.5	51439.6
5	2328.1	3126.9	3434.8	5849.4	7216.5	15688.1	25660.9	29509.2	34266.9
6+	9033.5	10987.2	12404.2	15239.9	19804.5	25673.4	31548.5	34967.9	40840.7

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2023

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7848.2	10623.0	11655.3	20016.0	24637.2	53518.6	90144.3	100863.6	116515.1
2	6305.0	8675.2	9506.8	16332.5	20123.3	44107.1	71664.9	82302.1	95773.7
3	4980.7	6802.3	7431.7	12777.7	15750.4	34386.3	57403.5	64533.2	74986.3
4	3344.2	4695.8	5174.0	8804.7	10871.7	23798.2	38920.8	44464.9	51099.1
5	2261.7	3102.2	3372.3	5766.6	7190.2	15648.2	25635.5	29508.2	34137.9

6+	9388.3	11511.0	12830.8	15715.1	20277.1	26305.0	32068.9	35447.0	41415.2

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2024

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7797.2	10643.4	11658.6	19990.7	24631.8	53652.6	88897.1	100865.9	118061.2
2	6404.0	8668.2	9510.6	16332.8	20103.6	43670.4	73556.3	82303.1	95074.5
3	4943.5	6801.9	7454.0	12805.8	15778.0	34583.0	56190.1	64530.4	75093.0
4	3432.0	4687.3	5121.0	8804.8	10853.1	23694.6	39555.1	44468.0	51670.9
5	2219.4	3116.4	3433.7	5843.2	7215.0	15793.7	25829.8	29509.2	33911.9
6+	9726.6	11764.2	13050.1	15842.4	20540.3	26441.0	32282.5	35622.1	42675.9

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2025

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7721.8	10640.8	11683.7	19993.5	24651.1	53763.0	89839.0	100867.7	118108.9
2	6362.4	8684.9	9513.2	16312.1	20099.1	43779.7	72538.7	82305.0	96336.1
3	5021.2	6796.5	7456.9	12806.0	15762.6	34240.5	57673.1	64531.2	74544.8
4	3406.5	4687.0	5136.3	8824.1	10872.2	23830.1	38719.0	44466.1	51744.5
5	2277.7	3110.7	3398.5	5843.3	7202.7	15725.0	26250.8	29511.2	34291.4
6+	10011.0	11961.4	13261.6	16225.9	20762.5	26752.9	32600.3	35936.6	42131.8

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2026

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	8007.7	10650.5	11717.1	20009.6	24681.5	53874.8	89597.5	100861.1	118487.4
2	6300.9	8682.7	9533.7	16314.3	20114.9	43869.8	73307.2	82306.5	96375.0
3	4988.5	6809.5	7459.0	12789.8	15759.1	34326.2	56875.2	64532.7	75534.0
4	3460.0	4683.2	5138.4	8824.2	10861.5	23594.2	39740.9	44466.6	51366.7
5	2260.7	3110.5	3408.7	5856.1	7215.3	15814.9	25695.9	29509.9	34340.2
6+	10180.5	12083.9	13387.1	16311.2	20918.2	27058.9	32739.3	36041.7	42559.4

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2027

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7798.3	10656.4	11697.5	20026.9	24612.0	53176.1	88316.0	100862.7	117419.3
2	6534.2	8690.7	9561.0	16327.5	20139.7	43961.0	73110.1	82301.1	96683.8
3	4940.3	6807.8	7475.0	12791.5	15771.5	34396.9	57477.8	64533.9	75564.5
4	3437.5	4692.2	5139.8	8813.1	10859.1	23653.2	39191.1	44467.7	52048.4
5	2296.2	3108.0	3410.1	5856.2	7208.3	15658.3	26374.1	29510.3	34089.5
6+	10337.1	12178.9	13431.3	16323.5	21065.2	27292.0	32898.7	36566.7	42536.4

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2028

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7681.7	10653.4	11730.0	19967.6	24650.9	53801.3	87747.7	100862.5	117437.9
2	6363.3	8695.5	9545.0	16341.7	20083.0	43390.9	72064.5	82302.4	95812.3
3	5123.2	6814.1	7496.5	12801.9	15790.9	34468.4	57323.3	64529.6	75806.7
4	3404.2	4691.1	5150.8	8814.3	10867.7	23701.9	39606.3	44468.5	52069.4
5	2281.3	3114.0	3411.0	5848.8	7206.7	15697.5	26009.2	29511.0	34541.9
6+	10443.2	12256.6	13508.3	16448.7	21112.1	27133.4	32977.5	36464.4	42780.7

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2029

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7787.3	10610.2	11641.1	19965.0	24632.0	53708.6	89255.8	100864.1	118647.5

2	6268.2	8693.0	9571.5	16293.2	20114.8	43901.0	71600.7	82302.2	95827.5
3	4989.3	6817.8	7483.9	12813.0	15746.4	34021.4	56503.4	64530.6	75123.3
4	3530.3	4695.4	5165.6	8821.4	10881.1	23751.2	39499.9	44465.5	52236.2
5	2259.2	3113.2	3418.4	5849.6	7212.3	15729.8	26284.7	29511.5	34555.8
6+	10320.3	12291.8	13574.8	16555.3	21225.5	27218.0	32868.9	36222.5	42502.1

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2030

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7671.5	10655.6	11697.4	20020.0	24673.3	54157.3	88947.2	100865.7	117671.9
2	6354.3	8657.8	9499.0	16291.1	20099.3	43825.4	72831.3	82303.6	96814.5
3	4914.7	6815.9	7504.7	12775.0	15771.4	34421.3	56139.8	64530.5	75135.2
4	3438.0	4698.0	5157.0	8829.1	10850.4	23443.2	38934.9	44466.2	51765.3
5	2342.9	3116.1	3428.1	5854.3	7221.2	15762.5	26214.1	29509.6	34666.6
6+	10560.8	12469.0	13753.5	16619.7	21140.7	27176.2	32891.3	36498.2	43019.5

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2031

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	8006.7	10690.6	11898.8	20062.3	24701.1	54064.8	89133.5	100864.4	117557.4
2	6259.8	8694.8	9544.9	16336.0	20133.1	44191.5	72579.5	82304.9	96018.4
3	4982.2	6788.3	7447.9	12773.3	15759.2	34362.1	57104.7	64531.6	75909.2
4	3386.6	4696.7	5171.3	8802.9	10867.6	23718.8	38684.4	44466.1	51773.6
5	2281.6	3117.8	3422.4	5859.4	7200.9	15558.1	25839.2	29510.0	34354.1
6+	10630.7	12468.2	13732.9	16622.9	21271.8	27286.6	33212.2	36548.2	42587.2

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2032

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7679.3	10615.6	11589.7	19955.7	24676.3	54253.8	89075.1	100862.3	117474.8
2	6533.3	8723.3	9709.2	16370.5	20155.7	44116.1	72731.5	82303.8	95925.0
3	4908.1	6817.3	7483.9	12808.5	15785.7	34649.1	56907.2	64532.6	75284.9
4	3433.1	4677.6	5132.1	8801.7	10859.2	23677.9	39349.2	44466.9	52306.8
5	2247.5	3116.9	3431.9	5842.0	7212.3	15741.0	25672.9	29510.0	34359.5
6+	10440.1	12381.8	13686.4	16567.9	21242.2	27205.7	32877.8	36443.7	42809.8

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2033

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7756.5	10656.8	11721.3	19973.0	24663.4	54079.2	90527.6	100863.2	117853.3
2	6266.2	8662.1	9457.0	16283.5	20135.5	44270.2	72683.9	82302.1	95857.6
3	5122.6	6839.7	7612.7	12835.6	15803.5	34590.0	57026.4	64531.7	75211.7
4	3382.1	4697.6	5156.9	8826.0	10877.5	23875.7	39213.2	44467.6	51876.7
5	2278.4	3104.3	3405.9	5841.3	7206.7	15713.9	26114.1	29510.5	34713.5
6+	10532.9	12423.2	13698.4	16559.5	21234.3	27109.2	32952.1	36599.6	43061.2

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2034

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7765.3	10578.3	11501.0	19944.8	24608.6	53807.0	88326.3	100860.8	117017.7
2	6329.2	8695.8	9564.4	16297.7	20125.0	44127.8	73869.1	82302.8	96166.5
3	4913.1	6791.7	7414.9	12767.4	15787.6	34710.8	56989.1	64530.4	75158.8
4	3529.8	4713.0	5245.7	8844.6	10889.7	23835.0	39295.3	44467.0	51826.3
5	2244.5	3117.6	3422.4	5857.4	7218.8	15845.1	26023.8	29510.9	34428.0
6+	10454.7	12490.0	13723.7	16580.2	21175.6	27243.7	33093.1	36634.0	42768.7

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2035

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7674.6	10657.2	11706.4	19993.8	24651.2	53475.3	89043.9	100859.2	118054.1
2	6336.3	8631.7	9384.7	16274.6	20080.2	43905.6	72072.9	82300.9	95484.6
3	4962.5	6818.1	7499.2	12778.5	15779.3	34599.2	57918.4	64530.9	75401.0
4	3385.5	4680.0	5109.4	8797.6	10878.8	23918.3	39269.6	44466.1	51789.8
5	2342.6	3127.8	3481.3	5869.7	7227.0	15818.1	26078.3	29510.5	34394.5
6+	10489.9	12367.3	13652.4	16548.5	21414.3	27430.1	33169.4	36808.1	42768.0

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2036

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7580.1	10640.0	11643.1	19949.8	24666.8	54063.9	88745.6	100855.3	116973.0
2	6262.4	8696.1	9552.2	16314.7	20115.0	43635.0	72658.4	82299.6	96330.3
3	4968.1	6767.8	7358.2	12760.4	15744.3	34425.0	56510.0	64529.4	74866.4
4	3419.5	4698.2	5167.5	8805.3	10873.1	23841.3	39909.9	44466.4	51956.7
5	2246.8	3105.9	3390.9	5838.6	7219.7	15873.4	26061.3	29509.9	34370.3
6+	10461.4	12461.9	13703.2	16692.4	21491.8	27436.0	33177.4	36735.8	42826.1

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2037

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7853.7	10664.8	11683.8	20028.2	24663.7	54453.8	89288.6	100859.7	117377.3
2	6185.2	8682.0	9500.6	16278.7	20127.7	44115.3	72415.1	82296.4	95448.2
3	4910.1	6818.3	7489.6	12791.8	15771.5	34212.8	56969.1	64528.4	75529.5
4	3423.4	4663.5	5070.3	8792.8	10848.9	23721.3	38939.5	44465.4	51588.3
5	2269.4	3117.9	3429.4	5843.6	7215.9	15822.3	26486.2	29510.2	34481.1
6+	10452.6	12439.5	13758.9	16670.4	21412.3	27428.7	33350.1	36626.8	43133.1

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2038

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7667.5	10627.8	11710.2	20004.8	24658.5	53929.0	89065.0	100863.2	117072.1
2	6408.5	8702.3	9533.8	16342.7	20125.2	44433.4	72858.1	82300.0	95778.1
3	4849.6	6807.3	7449.1	12763.6	15781.5	34589.4	56778.3	64525.9	74837.8
4	3383.4	4698.3	5160.9	8814.5	10867.7	23575.1	39255.8	44464.7	52045.2
5	2271.9	3095.0	3364.9	5835.4	7199.9	15742.6	25842.2	29509.5	34236.6
6+	10566.5	12476.1	13721.7	16695.5	21455.4	27381.5	33232.2	36674.1	43136.0

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2039

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7490.0	10588.5	11601.5	19920.8	24614.5	53743.3	89038.3	100864.5	117026.6
2	6256.6	8672.1	9555.3	16323.6	20120.9	44005.2	72675.6	82302.8	95529.0
3	5024.7	6823.2	7475.1	12813.8	15779.5	34838.8	57125.7	64528.7	75096.5
4	3341.8	4690.7	5133.0	8795.1	10874.6	23834.6	39124.3	44463.0	51568.6
5	2245.4	3118.0	3425.0	5849.7	7212.4	15645.6	26052.1	29509.0	34539.8
6+	10517.0	12467.8	13732.3	16680.1	21298.2	27491.4	33082.2	36380.5	43321.1

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2040

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7545.4	10647.5	11618.0	19987.2	24635.1	53042.0	87063.3	100860.7	117018.8
2	6111.7	8640.0	9466.6	16255.1	20085.0	43853.7	72653.8	82303.8	95491.9
3	4905.6	6799.5	7492.0	12798.8	15776.2	34503.1	56982.6	64530.9	74901.2

4	3462.4	4701.7	5150.9	8829.6	10873.2	24006.4	39363.7	44464.9	51746.9
5	2217.8	3113.0	3406.5	5836.8	7216.9	15817.8	25964.9	29507.9	34223.5
6+	10536.7	12497.9	13738.4	16582.1	21279.0	27336.1	33177.4	36751.5	42923.5

REALIZED F SERIES

YEAR	AVG F	STD
2011	0.345	0.065
2012	0.171	0.039
2013	0.210	0.000
2014	0.210	0.000
2015	0.210	0.000
2016	0.210	0.000
2017	0.210	0.000
2018	0.210	0.000
2019	0.210	0.000
2020	0.210	0.000
2021	0.210	0.000
2022	0.210	0.000
2023	0.210	0.000
2024	0.210	0.000
2025	0.210	0.000
2026	0.210	0.000
2027	0.210	0.000
2028	0.210	0.000
2029	0.210	0.000
2030	0.210	0.000
2031	0.210	0.000
2032	0.210	0.000
2033	0.210	0.000
2034	0.210	0.000
2035	0.210	0.000
2036	0.210	0.000
2037	0.210	0.000
2038	0.210	0.000
2039	0.210	0.000
2040	0.210	0.000

PERCENTILES OF REALIZED F SERIES

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	0.223	0.253	0.267	0.299	0.336	0.384	0.429	0.460	0.533
2012	0.104	0.119	0.128	0.145	0.164	0.192	0.223	0.245	0.287
2013	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2014	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2015	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2016	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2017	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2018	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2019	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2020	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2021	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2022	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2023	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2024	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2025	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2026	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2027	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210

2028	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2029	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2030	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2031	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2032	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2033	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2034	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2035	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2036	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2037	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2038	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2039	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2040	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210

ANNUAL PROBABILITY FULLY-RECRUITED F EXCEEDS THRESHOLD: 0.250

YEAR	Pr(F > Threshold Value) FOR FEASIBLE SIMULATIONS
2011	0.955
2012	0.042
2013	0.000
2014	0.000
2015	0.000
2016	0.000
2017	0.000
2018	0.000
2019	0.000
2020	0.000
2021	0.000
2022	0.000
2023	0.000
2024	0.000
2025	0.000
2026	0.000
2027	0.000
2028	0.000
2029	0.000
2030	0.000
2031	0.000
2032	0.000
2033	0.000
2034	0.000
2035	0.000
2036	0.000
2037	0.000
2038	0.000
2039	0.000
2040	0.000

GB Yellowtail Flounder – Rho Adjustment

Rho Adjustment

AGEPRO VERSION 3.3

PROJECTION RUN: Fref=0.25

INPUT FILE: C:\DOCUMENTS AND SETTINGS\TAN\MY DOCUMENTS\PROJECTION_FILES\TRAC 2011\GB YTF\POST_SSC_EXAM\RHO_2650_1150_0.21.IN
OUTPUT FILE: C:\DOCUMENTS AND SETTINGS\TAN\MY DOCUMENTS\PROJECTION_FILES\TRAC 2011\GB YTF\POST_SSC_EXAM\RHO_2650_1150_0.21.OUT
NUMBER OF SIMULATIONS PER BOOTSTRAP REALIZATION: 10
TOTAL NUMBER OF SIMULATIONS: 10000
NUMBER OF FEASIBLE SIMULATIONS: 10000
PROPORTION OF SIMULATIONS THAT ARE FEASIBLE: 1.00000000000000
NUMBER OF BOOTSTRAP REALIZATIONS: 1000

NUMBER OF RECRUITMENT MODELS: 1
PROBABLE RECRUITMENT MODELS: 15
RECRUITMENT MODELS BY YEAR

YEAR	RECRUITMENT MODELS
2011	15
2012	15
2013	15
2014	15
2015	15
2016	15
2017	15
2018	15
2019	15
2020	15
2021	15
2022	15
2023	15
2024	15
2025	15
2026	15
2027	15
2028	15
2029	15
2030	15
2031	15
2032	15
2033	15
2034	15
2035	15
2036	15
2037	15
2038	15
2039	15
2040	15

RECRUITMENT MODEL PROBABILITIES BY YEAR

YEAR	MODEL PROBABILITY
2011	1.00000000000000

2012	1.00000000000000
2013	1.00000000000000
2014	1.00000000000000
2015	1.00000000000000
2016	1.00000000000000
2017	1.00000000000000
2018	1.00000000000000
2019	1.00000000000000
2020	1.00000000000000
2021	1.00000000000000
2022	1.00000000000000
2023	1.00000000000000
2024	1.00000000000000
2025	1.00000000000000
2026	1.00000000000000
2027	1.00000000000000
2028	1.00000000000000
2029	1.00000000000000
2030	1.00000000000000
2031	1.00000000000000
2032	1.00000000000000
2033	1.00000000000000
2034	1.00000000000000
2035	1.00000000000000
2036	1.00000000000000
2037	1.00000000000000
2038	1.00000000000000
2039	1.00000000000000
2040	1.00000000000000

RECRUITMENT MODEL SAMPLING FREQUENCIES BY YEAR

YEAR	MODEL SAMPLING FREQUENCIES
2011	10000
2012	10000
2013	10000
2014	10000
2015	10000
2016	10000
2017	10000
2018	10000
2019	10000
2020	10000
2021	10000
2022	10000
2023	10000
2024	10000
2025	10000
2026	10000
2027	10000
2028	10000
2029	10000
2030	10000
2031	10000
2032	10000
2033	10000
2034	10000

2035	10000
2036	10000
2037	10000
2038	10000
2039	10000
2040	10000

MIXTURE OF F AND QUOTA BASED CATCHES

YEAR	F	QUOTA (THOUSAND MT)
2011		2.650
2012		1.150
2013	0.210	
2014	0.210	
2015	0.210	
2016	0.210	
2017	0.210	
2018	0.210	
2019	0.210	
2020	0.210	
2021	0.210	
2022	0.210	
2023	0.210	
2024	0.210	
2025	0.210	
2026	0.210	
2027	0.210	
2028	0.210	
2029	0.210	
2030	0.210	
2031	0.210	
2032	0.210	
2033	0.210	
2034	0.210	
2035	0.210	
2036	0.210	
2037	0.210	
2038	0.210	
2039	0.210	
2040	0.210	

SPAWNING STOCK BIOMASS (THOUSAND MT)

YEAR	AVG SSB (000 MT)	STD
2011	4.338	0.919
2012	3.323	0.971
2013	5.493	2.436
2014	9.189	4.582
2015	12.977	5.765
2016	18.812	7.992
2017	25.358	9.654
2018	30.543	10.479
2019	34.770	11.155
2020	37.905	11.506
2021	39.980	11.666
2022	41.423	11.770
2023	42.380	11.888
2024	43.014	11.947

2025	43.441	11.907
2026	43.741	11.849
2027	43.961	11.837
2028	44.055	11.828
2029	44.083	11.837
2030	44.145	11.890
2031	44.225	11.956
2032	44.325	11.949
2033	44.415	11.960
2034	44.464	11.950
2035	44.453	11.899
2036	44.396	11.925
2037	44.362	12.007
2038	44.399	12.054
2039	44.457	12.035
2040	44.435	12.016

PERCENTILES OF SPAWNING STOCK BIOMASS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	2.402	2.925	3.213	3.689	4.325	4.894	5.566	5.899	6.713
2012	1.359	1.787	2.091	2.622	3.284	3.944	4.540	5.044	5.838
2013	2.382	3.011	3.378	4.059	4.942	6.062	7.951	10.663	15.400
2014	4.756	5.394	5.832	6.686	7.897	9.675	13.680	19.304	28.596
2015	6.803	7.553	8.100	9.231	11.046	14.926	20.490	24.777	34.334
2016	9.031	10.285	11.114	12.980	16.506	22.169	30.719	35.750	43.913
2017	11.465	13.527	14.757	17.681	23.351	31.467	38.933	43.494	53.233
2018	13.851	16.476	18.132	22.261	29.152	37.121	44.942	49.859	59.422
2019	15.880	19.029	21.168	26.139	33.553	42.003	49.895	55.042	64.884
2020	17.635	21.112	23.802	29.211	36.739	45.230	53.670	58.596	68.793
2021	19.024	22.880	25.538	31.154	38.849	47.565	55.831	60.904	71.052
2022	20.171	24.129	26.790	32.617	40.290	49.089	57.404	62.576	72.088
2023	21.070	24.947	27.710	33.450	41.231	50.026	58.650	63.406	74.089
2024	21.571	25.506	28.298	33.991	41.913	50.753	59.185	64.266	74.701
2025	21.965	25.915	28.661	34.528	42.382	51.136	59.477	64.607	75.177
2026	22.523	26.270	29.037	34.940	42.612	51.430	59.680	64.867	74.564
2027	22.796	26.484	29.383	35.175	42.870	51.357	60.023	65.364	75.892
2028	22.716	26.556	29.293	35.179	43.033	51.679	59.901	65.537	75.037
2029	22.407	26.609	29.531	35.311	43.103	51.675	60.057	65.319	75.540
2030	22.732	26.830	29.435	35.231	43.047	51.604	60.077	65.819	75.362
2031	22.621	26.680	29.497	35.419	43.119	51.996	60.410	65.753	75.919
2032	22.950	26.767	29.491	35.371	43.338	52.011	60.590	66.163	75.206
2033	22.878	26.782	29.522	35.420	43.292	52.087	60.795	65.994	75.238
2034	22.782	26.786	29.672	35.517	43.380	52.285	60.673	65.844	75.702
2035	22.765	26.897	29.666	35.435	43.429	52.221	60.853	65.677	75.147
2036	22.872	27.127	29.550	35.523	43.215	52.025	60.448	65.806	75.323
2037	22.628	26.710	29.536	35.394	43.159	52.002	60.654	66.152	75.981
2038	22.667	26.736	29.653	35.366	43.295	52.169	60.763	66.098	76.229
2039	22.556	26.702	29.533	35.541	43.290	52.281	60.625	65.980	75.811
2040	22.366	26.680	29.476	35.400	43.431	52.296	60.542	65.915	75.714

ANNUAL PROBABILITY THAT SSB EXCEEDS THRESHOLD: 43.200 THOUSAND MT

YEAR	Pr(SSB >= Threshold Value) FOR FEASIBLE SIMULATIONS
2011	0.000
2012	0.000
2013	0.000
2014	0.000

2015	0.002
2016	0.012
2017	0.052
2018	0.126
2019	0.220
2020	0.303
2021	0.364
2022	0.405
2023	0.437
2024	0.459
2025	0.475
2026	0.481
2027	0.489
2028	0.495
2029	0.497
2030	0.495
2031	0.497
2032	0.504
2033	0.503
2034	0.505
2035	0.507
2036	0.500
2037	0.499
2038	0.504
2039	0.502
2040	0.507

Pr(SSB >= Threshold Value) AT LEAST ONCE:= 0.969

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2011

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	21.3	29.3	33.3	43.9	59.0	75.7	92.9	106.8	127.7
3	215.2	286.2	326.3	411.8	529.2	669.1	828.1	929.5	1110.8
4	326.3	428.2	487.7	598.0	777.4	938.8	1177.9	1326.2	1616.6
5	816.3	992.5	1106.5	1322.5	1575.2	1861.0	2143.9	2355.4	2702.2
6+	661.9	804.8	897.2	1072.3	1277.2	1508.9	1738.3	1909.8	2191.0

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2012

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	80.6	169.3	287.4	473.7	696.1	966.2	1163.4	1289.9	1392.8
3	38.1	52.2	60.1	79.8	107.4	140.3	172.0	196.6	247.6
4	106.2	148.7	182.3	251.8	337.5	447.5	566.0	644.0	782.8
5	139.8	199.7	246.9	337.1	462.1	600.4	751.9	882.5	1155.7
6+	482.6	707.1	888.6	1193.4	1588.6	2009.2	2455.4	2788.2	3321.6

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2013

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	922.3	974.9	1025.0	1257.8	1819.3	2430.1	4107.0	6169.0	10914.6
3	161.1	337.2	580.2	961.4	1416.5	1965.8	2376.1	2641.1	2897.9

4	26.0	37.6	44.6	59.7	83.2	111.8	139.2	158.3	200.6
5	63.8	95.9	123.2	180.3	252.8	348.7	445.6	509.0	634.4
6+	276.6	507.5	662.5	951.8	1322.4	1701.0	2112.9	2424.8	2988.2

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2014

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	926.5	974.8	1018.2	1247.9	1604.9	2135.8	2527.0	3900.4	6530.7
3	1925.9	2035.7	2140.5	2626.5	3798.9	5074.5	8576.0	12882.0	22791.7
4	140.3	293.6	505.2	837.1	1233.4	1711.7	2069.0	2299.7	2523.3
5	22.1	31.9	37.9	50.7	70.7	95.0	118.2	134.4	170.3
6+	250.4	447.6	575.1	808.6	1128.8	1424.9	1763.4	1940.8	2348.3

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2015

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	920.6	996.7	1098.4	1428.1	2060.9	2751.0	6625.3	9431.2	11837.4
3	1934.7	2035.6	2126.1	2605.7	3351.3	4459.8	5276.8	8144.8	13637.3
4	1677.0	1772.5	1863.8	2287.0	3307.8	4418.5	7467.4	11216.7	19845.4
5	119.1	249.3	428.9	710.7	1047.1	1453.2	1756.5	1952.4	2142.2
6+	193.1	334.9	427.6	590.4	811.8	1016.5	1248.5	1372.6	1646.3

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2016

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	809.2	1149.9	1247.7	2138.3	2666.0	5803.8	9599.8	10926.0	12818.1
3	1922.3	2081.3	2293.7	2982.2	4303.4	5744.6	13834.8	19693.9	24718.6
4	1684.6	1772.4	1851.2	2268.9	2918.1	3883.3	4594.7	7091.9	11874.4
5	1423.7	1504.8	1582.3	1941.6	2808.3	3751.2	6339.6	9522.7	16848.2
6+	421.7	687.5	851.3	1140.0	1477.0	1867.6	2220.1	2415.2	2794.1

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2017

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	848.8	1154.6	1283.2	2175.0	2669.3	5833.3	9607.8	10925.6	12749.0
3	1689.8	2401.2	2605.4	4465.1	5567.1	12119.2	20046.1	22815.4	26766.5
4	1673.8	1812.2	1997.2	2596.7	3747.1	5002.0	12046.3	17148.0	21523.2
5	1430.2	1504.8	1571.7	1926.2	2477.4	3296.8	3900.8	6020.8	10081.0
6+	1839.0	2121.3	2301.7	2701.4	3359.8	4278.0	6630.1	9680.2	16211.1

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2018

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	838.8	1155.3	1266.4	2171.7	2674.5	5831.5	9731.6	10927.1	12840.5
3	1772.4	2411.0	2679.6	4541.8	5574.0	12180.9	20062.8	22814.5	26622.2
4	1471.3	2090.8	2268.6	3887.9	4847.4	10552.6	17454.8	19866.0	23306.4
5	1421.0	1538.5	1695.6	2204.5	3181.2	4246.6	10227.0	14558.2	18272.6
6+	2797.3	3124.1	3363.1	3888.0	4608.8	5689.2	8074.2	10313.0	15530.9

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2019

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	862.0	1157.7	1271.7	2165.7	2671.9	5808.5	9500.8	10925.6	12687.1
3	1751.6	2412.4	2644.6	4535.0	5584.8	12177.1	20321.2	22817.7	26813.3
4	1543.3	2099.4	2333.2	3954.6	4853.5	10606.3	17469.3	19865.2	23180.7
5	1249.1	1775.0	1926.0	3300.7	4115.3	8958.8	14818.6	16865.7	19786.4
6+	3455.2	3887.6	4180.7	4828.5	6006.1	8439.5	13882.1	17512.4	21093.2

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2020

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	837.4	1148.6	1248.6	2135.1	2662.1	5793.7	9491.4	10925.3	12639.4
3	1800.0	2417.5	2655.6	4522.4	5579.4	12129.1	19839.3	22814.6	26492.9
4	1525.1	2100.5	2302.7	3948.7	4862.8	10602.9	17694.3	19868.0	23347.1
5	1310.2	1782.3	1980.8	3357.4	4120.5	9004.4	14830.9	16865.0	19679.8
6+	4164.1	4911.5	5512.3	6670.0	8948.5	13992.7	18431.3	20539.3	25086.8

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2021

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	821.7	1153.8	1271.3	2163.4	2671.3	5847.5	9563.3	10925.6	12555.7
3	1748.6	2398.4	2607.2	4458.4	5559.0	12098.2	19819.7	22813.9	26393.2
4	1567.3	2105.0	2312.3	3937.8	4858.1	10561.1	17274.7	19865.3	23068.2
5	1294.8	1783.3	1954.9	3352.4	4128.4	9001.6	15022.0	16867.4	19821.0
6+	4920.6	6161.1	6854.9	8387.7	11835.2	16302.2	20425.6	22753.2	27896.6

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2022

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	843.3	1151.7	1258.3	2163.4	2666.8	5822.1	9719.2	10926.4	12696.2
3	1715.9	2409.4	2654.7	4517.6	5578.2	12210.7	19969.9	22814.6	26218.5
4	1522.6	2088.4	2270.2	3882.0	4840.4	10534.2	17257.6	19864.7	22981.4
5	1330.6	1787.1	1963.1	3343.1	4124.4	8966.1	14665.7	16865.1	19584.2
6+	5772.8	7063.3	7950.7	9888.4	13321.1	17825.2	22315.7	24864.3	29403.7

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2023

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	837.0	1151.7	1262.1	2168.2	2671.4	5855.4	9513.8	10925.9	12714.3
3	1761.0	2405.0	2627.5	4517.7	5568.7	12157.5	20295.4	22816.1	26511.9
4	1494.1	2097.9	2311.6	3933.6	4857.1	10632.2	17388.4	19865.3	22829.2
5	1292.6	1773.0	1927.3	3295.7	4109.4	8943.3	14651.2	16864.6	19510.5
6+	6389.5	7791.8	8727.4	10832.2	14221.5	18898.9	23197.2	25681.5	30241.7

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2024

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	850.2	1150.7	1262.6	2168.2	2668.8	5797.4	9764.9	10926.0	12621.5
3	1747.8	2404.9	2635.4	4527.6	5578.4	12227.0	19866.4	22815.2	26549.6
4	1533.3	2094.1	2287.9	3933.7	4848.8	10585.9	17671.8	19866.7	23084.7
5	1268.4	1781.1	1962.5	3339.5	4123.5	9026.4	14762.2	16865.1	19381.4

6+	6719.3	8286.8	9248.5	11304.5	14866.3	19345.3	23672.4	26304.5	31508.3

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2025

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	844.6	1152.9	1262.9	2165.5	2668.2	5811.9	9629.8	10926.3	12789.0
3	1775.3	2402.9	2636.4	4527.6	5573.0	12106.0	20390.7	22815.5	26355.8
4	1521.9	2094.0	2294.7	3942.3	4857.3	10646.4	17298.3	19865.8	23117.6
5	1301.7	1777.8	1942.3	3339.6	4116.5	8987.1	15002.8	16866.2	19598.2
6+	7134.1	8618.4	9569.8	11815.4	15284.4	19842.0	24195.8	26774.3	31384.1

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2026

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	836.5	1152.7	1265.6	2165.8	2670.3	5823.9	9731.8	10926.5	12794.1
3	1763.7	2407.5	2637.2	4521.9	5571.7	12136.3	20108.6	22816.0	26705.6
4	1545.8	2092.3	2295.6	3942.4	4852.5	10541.0	17754.8	19866.1	22948.8
5	1292.0	1777.7	1948.2	3346.9	4123.7	9038.5	14685.7	16865.5	19626.1
6+	7469.5	8873.4	9840.1	12072.5	15545.0	20181.1	24558.6	27028.4	32075.7

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2027

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	867.4	1153.7	1269.3	2167.5	2673.6	5836.0	9705.6	10925.8	12835.1
3	1746.7	2407.0	2642.9	4522.5	5576.1	12161.2	20321.7	22816.4	26716.3
4	1535.7	2096.3	2296.3	3937.4	4851.5	10567.4	17509.2	19866.5	23253.3
5	1312.3	1776.3	1948.9	3346.9	4119.7	8949.0	15073.3	16865.7	19482.9
6+	7653.5	9060.7	9984.2	12164.1	15770.1	20454.6	24764.2	27534.7	32146.1

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2028

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	844.8	1154.4	1267.1	2169.4	2666.1	5760.3	9566.8	10925.9	12719.4
3	1811.4	2409.2	2650.4	4526.2	5583.0	12186.5	20267.0	22814.9	26802.0
4	1520.9	2095.8	2301.2	3937.9	4855.3	10589.2	17694.7	19866.9	23262.7
5	1303.8	1779.7	1949.5	3342.7	4118.8	8971.4	14864.8	16866.1	19741.4
6+	7800.1	9161.3	10112.4	12329.3	15851.5	20456.7	24901.6	27514.8	32380.5

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2029

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	832.1	1154.0	1270.7	2163.0	2670.3	5828.0	9505.3	10925.9	12721.4
3	1764.0	2410.5	2646.0	4530.1	5567.3	12028.5	19977.2	22815.2	26560.4
4	1577.2	2097.7	2307.8	3941.1	4861.3	10611.2	17647.1	19865.6	23337.3
5	1291.2	1779.3	1953.7	3343.2	4122.0	8989.9	15022.3	16866.4	19749.4
6+	7732.7	9241.0	10195.5	12458.5	16017.6	20555.8	24838.9	27412.4	32155.1

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2030

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

2	843.6	1149.4	1261.0	2162.7	2668.3	5818.0	9668.6	10926.1	12852.5
3	1737.6	2409.8	2653.3	4516.7	5576.1	12169.9	19848.6	22815.2	26564.6
4	1536.0	2098.9	2303.9	3944.5	4847.6	10473.6	17394.7	19865.9	23126.9
5	1339.0	1780.9	1959.3	3345.9	4127.1	9008.6	14981.9	16865.3	19812.7
6+	7943.9	9385.2	10371.0	12549.2	15974.4	20563.8	24876.9	27636.5	32581.0

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2031

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	831.0	1154.3	1267.1	2168.7	2672.7	5866.6	9635.2	10926.3	12746.8
3	1761.5	2400.0	2633.2	4516.1	5571.8	12148.9	20189.7	22815.6	26838.2
4	1513.0	2098.3	2310.3	3932.8	4855.2	10596.7	17282.8	19865.9	23130.5
5	1304.0	1781.9	1956.0	3348.8	4115.4	8891.8	14767.6	16865.6	19634.1
6+	8032.5	9418.5	10379.5	12563.9	16100.6	20656.0	25129.5	27672.5	32266.7

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2032

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	867.3	1158.1	1288.9	2173.2	2675.7	5856.6	9655.4	10926.1	12734.4
3	1735.3	2410.3	2646.0	4528.5	5581.1	12250.4	20119.9	22815.9	26617.5
4	1533.8	2089.8	2292.8	3932.3	4851.5	10578.4	17579.8	19866.2	23368.8
5	1284.5	1781.4	1961.4	3338.8	4122.0	8996.3	14672.6	16865.5	19637.2
6+	7899.4	9370.6	10359.6	12544.6	16090.5	20587.2	24906.4	27598.6	32433.2

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2033

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	831.9	1149.9	1255.5	2161.7	2673.1	5877.0	9649.0	10925.9	12725.4
3	1811.1	2418.2	2691.5	4538.1	5587.4	12229.5	20162.1	22815.6	26591.6
4	1511.0	2098.7	2303.9	3943.1	4859.7	10666.8	17519.0	19866.5	23176.6
5	1302.1	1774.2	1946.6	3338.4	4118.8	8980.8	14924.8	16865.8	19839.4
6+	7963.6	9404.1	10368.9	12547.8	16089.0	20545.7	24979.1	27736.0	32657.7

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2034

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	840.2	1154.4	1269.7	2163.6	2671.7	5858.1	9806.4	10926.0	12766.4
3	1737.1	2401.3	2621.6	4514.0	5581.8	12272.3	20148.9	22815.2	26572.9
4	1577.0	2105.6	2343.6	3951.5	4865.1	10648.6	17555.7	19866.2	23154.1
5	1282.8	1781.8	1956.0	3347.6	4125.7	9055.8	14873.1	16866.1	19676.3
6+	7922.4	9464.0	10404.4	12566.8	16053.0	20655.8	25099.3	27780.4	32421.3

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2035

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	841.2	1145.9	1245.8	2160.5	2665.7	5828.6	9567.9	10925.7	12675.9
3	1754.5	2410.6	2651.4	4517.9	5578.9	12232.8	20477.4	22815.4	26658.5
4	1512.5	2090.8	2282.7	3930.5	4860.2	10685.8	17544.2	19865.8	23137.8
5	1338.8	1787.6	1989.6	3354.7	4130.4	9040.4	14904.3	16865.9	19657.2
6+	7951.5	9377.2	10353.3	12547.5	16235.9	20806.2	25157.9	27914.6	32439.8

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2036

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	831.4	1154.4	1268.1	2165.8	2670.3	5792.7	9645.7	10925.6	12788.2
3	1756.5	2392.8	2601.5	4511.5	5566.5	12171.2	19979.5	22814.8	26469.5
4	1527.7	2099.0	2308.6	3933.9	4857.7	10651.4	17830.3	19866.0	23212.4
5	1284.1	1775.1	1937.9	3336.9	4126.2	9071.9	14894.5	16865.5	19643.3
6+	7932.2	9448.2	10392.0	12661.0	16300.4	20811.0	25163.1	27865.6	32482.7

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2037

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	821.1	1152.6	1261.2	2161.1	2672.0	5856.5	9613.4	10925.1	12671.1
3	1736.0	2410.7	2648.0	4522.6	5576.1	12096.2	20141.8	22814.5	26704.0
4	1529.4	2083.5	2265.2	3928.3	4846.9	10597.8	17396.7	19865.5	23047.8
5	1297.0	1782.0	1960.0	3339.8	4124.0	9042.8	15137.4	16865.7	19706.6
6+	7927.1	9430.3	10434.4	12644.0	16243.5	20804.8	25300.4	27782.7	32722.2

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2038

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	850.8	1155.3	1265.6	2169.6	2671.7	5898.7	9672.2	10925.6	12714.9
3	1714.6	2406.8	2633.7	4512.7	5579.7	12229.3	20074.3	22813.6	26459.4
4	1511.6	2099.0	2305.7	3938.0	4855.3	10532.5	17538.1	19865.2	23251.9
5	1298.5	1768.8	1923.1	3335.0	4114.9	8997.2	14769.3	16865.3	19566.9
6+	8016.0	9463.7	10408.5	12663.9	16272.1	20770.1	25208.0	27822.1	32725.1

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2039

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	830.6	1151.3	1268.5	2167.0	2671.1	5841.8	9647.9	10926.0	12681.8
3	1776.5	2412.4	2642.9	4530.4	5579.0	12317.5	20197.2	22814.6	26550.9
4	1493.0	2095.6	2293.2	3929.3	4858.4	10648.4	17479.3	19864.4	23039.0
5	1283.3	1782.0	1957.5	3343.2	4122.0	8941.8	14889.3	16865.0	19740.2
6+	7978.2	9456.2	10414.5	12652.8	16157.3	20854.9	25097.0	27600.1	32864.8

PERCENTILES OF SPAWNING BIOMASS AT AGE VECTOR (MT)
IN YEAR: 2040

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	811.3	1147.0	1256.7	2157.9	2666.4	5821.7	9645.1	10926.1	12676.9
3	1734.4	2404.0	2648.9	4525.1	5577.8	12198.8	20146.6	22815.3	26481.8
4	1546.9	2100.5	2301.2	3944.8	4857.8	10725.2	17586.3	19865.3	23118.6
5	1267.5	1779.1	1946.9	3335.9	4124.6	9040.2	14839.5	16864.4	19559.4
6+	7992.0	9480.6	10422.1	12578.9	16143.3	20737.9	25169.2	27879.5	32563.0

MEAN BIOMASS (THOUSAND MT) FOR AGES: 1 TO 6

YEAR	AVG MEAN B (000 MT)	STD
2011	5.032	0.993
2012	6.452	2.607
2013	10.021	4.795
2014	14.359	6.378

2015	20.528	8.540
2016	27.769	10.430
2017	34.305	11.640
2018	39.342	12.340
2019	43.350	12.879
2020	46.408	13.175
2021	48.498	13.344
2022	49.912	13.488
2023	50.835	13.566
2024	51.439	13.548
2025	51.874	13.471
2026	52.184	13.455
2027	52.343	13.459
2028	52.409	13.459
2029	52.484	13.501
2030	52.588	13.577
2031	52.708	13.594
2032	52.800	13.611
2033	52.866	13.597
2034	52.862	13.542
2035	52.819	13.551
2036	52.785	13.641
2037	52.822	13.704
2038	52.880	13.702
2039	52.858	13.670
2040	52.739	13.619

PERCENTILES OF MEAN STOCK BIOMASS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	3.014	3.470	3.773	4.306	4.997	5.668	6.288	6.793	7.620
2012	3.070	3.764	4.164	4.908	5.865	7.089	9.107	12.007	16.898
2013	5.179	5.955	6.423	7.381	8.679	10.587	14.741	20.703	30.160
2014	7.573	8.415	9.006	10.237	12.232	16.404	22.545	27.454	38.038
2015	10.005	11.383	12.293	14.313	18.103	24.116	33.135	38.380	47.514
2016	12.821	15.022	16.330	19.540	25.546	34.309	42.369	47.470	57.880
2017	15.840	18.703	20.526	25.135	32.678	41.478	50.218	55.950	66.445
2018	18.354	21.874	24.350	29.830	38.116	47.176	56.175	61.659	72.489
2019	20.496	24.587	27.527	33.633	42.020	51.620	60.981	66.400	77.633
2020	22.390	26.861	30.102	36.563	45.219	54.891	64.224	69.883	81.634
2021	23.920	28.628	31.853	38.550	47.343	57.216	66.337	72.102	83.374
2022	25.179	29.857	33.183	39.889	48.650	58.640	68.121	73.650	85.560
2023	26.008	30.698	34.048	40.741	49.691	59.523	69.098	74.812	86.703
2024	26.566	31.258	34.619	41.394	50.327	60.284	69.611	75.117	86.949
2025	27.168	31.799	35.091	41.879	50.725	60.659	69.849	75.742	86.936
2026	27.556	32.054	35.488	42.267	50.954	60.696	70.225	76.173	88.226
2027	27.603	32.050	35.458	42.542	51.243	61.005	70.482	76.534	87.402
2028	27.165	32.213	35.744	42.499	51.405	61.021	70.528	76.431	87.968
2029	27.546	32.528	35.641	42.468	51.420	61.095	70.455	76.775	87.743
2030	27.468	32.234	35.922	42.657	51.340	61.323	71.090	76.671	88.545
2031	27.834	32.426	35.757	42.679	51.611	61.476	70.987	77.429	88.390
2032	27.613	32.509	35.720	42.657	51.683	61.549	71.327	77.223	87.682
2033	27.653	32.511	35.959	42.736	51.735	61.684	71.327	76.640	87.487
2034	27.721	32.543	35.957	42.722	51.707	61.799	71.298	76.795	87.634
2035	27.796	32.714	35.977	42.806	51.532	61.482	71.223	76.875	87.522
2036	27.525	32.445	35.850	42.818	51.574	61.467	71.123	77.338	88.522
2037	27.676	32.527	35.900	42.620	51.748	61.645	71.435	77.295	88.819

2038	27.436	32.503	35.837	42.771	51.640	61.862	71.231	77.228	88.620
2039	27.222	32.452	35.793	42.738	51.774	61.767	71.135	76.996	88.059
2040	27.526	32.562	35.819	42.767	51.507	61.569	71.312	77.206	87.680

ANNUAL PROBABILITY THAT MEAN BIOMASS EXCEEDS THRESHOLD: 0.000 THOUSAND MT

YEAR	Pr(MEAN B >= Threshold Value) FOR FEASIBLE SIMULATIONS
2011	1.000
2012	1.000
2013	1.000
2014	1.000
2015	1.000
2016	1.000
2017	1.000
2018	1.000
2019	1.000
2020	1.000
2021	1.000
2022	1.000
2023	1.000
2024	1.000
2025	1.000
2026	1.000
2027	1.000
2028	1.000
2029	1.000
2030	1.000
2031	1.000
2032	1.000
2033	1.000
2034	1.000
2035	1.000
2036	1.000
2037	1.000
2038	1.000
2039	1.000
2040	1.000

Pr(MEAN B >= Threshold Value) AT LEAST ONCE:= 1.000

F WEIGHTED BY MEAN BIOMASS FOR AGES: 1 TO 6

YEAR	AVG F_WT_B	STD
2011	0.548	0.113
2012	0.200	0.061
2013	0.085	0.015
2014	0.107	0.018
2015	0.111	0.023
2016	0.117	0.025
2017	0.130	0.024
2018	0.140	0.023
2019	0.147	0.022
2020	0.152	0.021
2021	0.154	0.020
2022	0.156	0.020
2023	0.157	0.019
2024	0.157	0.019

2025	0.158	0.019
2026	0.158	0.019
2027	0.158	0.019
2028	0.159	0.019
2029	0.158	0.019
2030	0.158	0.019
2031	0.158	0.019
2032	0.158	0.019
2033	0.158	0.019
2034	0.159	0.019
2035	0.159	0.019
2036	0.159	0.019
2037	0.159	0.019
2038	0.158	0.019
2039	0.159	0.019
2040	0.159	0.019

PERCENTILES OF F WEIGHTED BY MEAN BIOMASS FOR AGES: 1 TO 6

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	0.347	0.389	0.421	0.467	0.530	0.615	0.701	0.762	0.874
2012	0.068	0.096	0.126	0.162	0.196	0.234	0.276	0.305	0.374
2013	0.051	0.060	0.065	0.074	0.086	0.096	0.105	0.110	0.119
2014	0.064	0.075	0.083	0.096	0.108	0.119	0.129	0.136	0.150
2015	0.064	0.072	0.078	0.093	0.113	0.127	0.140	0.147	0.164
2016	0.069	0.077	0.084	0.097	0.118	0.135	0.150	0.157	0.167
2017	0.078	0.089	0.097	0.112	0.132	0.149	0.160	0.167	0.177
2018	0.087	0.100	0.108	0.124	0.143	0.158	0.169	0.174	0.182
2019	0.094	0.108	0.117	0.132	0.150	0.165	0.174	0.178	0.185
2020	0.099	0.114	0.122	0.137	0.155	0.168	0.177	0.181	0.187
2021	0.102	0.117	0.126	0.140	0.157	0.170	0.178	0.182	0.188
2022	0.105	0.120	0.128	0.142	0.158	0.171	0.179	0.183	0.189
2023	0.107	0.121	0.129	0.143	0.159	0.172	0.180	0.183	0.190
2024	0.108	0.123	0.130	0.144	0.160	0.173	0.180	0.184	0.190
2025	0.109	0.122	0.130	0.144	0.160	0.173	0.181	0.184	0.190
2026	0.109	0.123	0.130	0.145	0.161	0.173	0.181	0.184	0.190
2027	0.110	0.124	0.132	0.145	0.161	0.173	0.181	0.185	0.191
2028	0.112	0.124	0.132	0.146	0.162	0.174	0.181	0.184	0.190
2029	0.110	0.124	0.132	0.146	0.161	0.173	0.181	0.185	0.190
2030	0.111	0.124	0.132	0.145	0.161	0.173	0.181	0.184	0.190
2031	0.110	0.124	0.131	0.145	0.161	0.173	0.181	0.184	0.190
2032	0.111	0.124	0.132	0.145	0.161	0.173	0.181	0.184	0.190
2033	0.110	0.124	0.132	0.145	0.161	0.174	0.181	0.185	0.190
2034	0.111	0.124	0.131	0.145	0.161	0.174	0.181	0.185	0.190
2035	0.111	0.124	0.132	0.146	0.162	0.174	0.181	0.185	0.191
2036	0.110	0.125	0.133	0.146	0.161	0.174	0.181	0.184	0.190
2037	0.112	0.124	0.132	0.145	0.161	0.174	0.181	0.185	0.190
2038	0.110	0.124	0.132	0.145	0.161	0.174	0.181	0.185	0.190
2039	0.109	0.123	0.131	0.146	0.162	0.174	0.181	0.185	0.190
2040	0.112	0.124	0.132	0.146	0.162	0.174	0.181	0.185	0.191

ANNUAL PROBABILITY THAT F WEIGHTED BY MEAN BIOMASS EXCEEDS THRESHOLD: 0.000

YEAR	Pr(F_WT_B > Threshold Value) FOR FEASIBLE SIMULATIONS
2011	1.000
2012	1.000
2013	1.000
2014	1.000

2015	1.000
2016	1.000
2017	1.000
2018	1.000
2019	1.000
2020	1.000
2021	1.000
2022	1.000
2023	1.000
2024	1.000
2025	1.000
2026	1.000
2027	1.000
2028	1.000
2029	1.000
2030	1.000
2031	1.000
2032	1.000
2033	1.000
2034	1.000
2035	1.000
2036	1.000
2037	1.000
2038	1.000
2039	1.000
2040	1.000

TOTAL STOCK BIOMASS (THOUSAND MT)

YEAR	AVG TOTAL B (000 MT)	STD
2011	5.597	0.881
2012	3.201	0.908
2013	3.508	1.160
2014	7.697	4.429
2015	10.579	4.865
2016	15.436	7.572
2017	22.564	9.712
2018	28.157	10.561
2019	32.955	11.423
2020	36.738	11.885
2021	39.141	12.119
2022	40.857	12.198
2023	41.976	12.330
2024	42.736	12.421
2025	43.237	12.437
2026	43.580	12.370
2027	43.832	12.337
2028	44.011	12.323
2029	44.009	12.299
2030	44.078	12.355
2031	44.131	12.418
2032	44.230	12.463
2033	44.334	12.406
2034	44.404	12.480
2035	44.438	12.405
2036	44.377	12.376

2037	44.328	12.452
2038	44.311	12.533
2039	44.400	12.541
2040	44.418	12.512

PERCENTILES OF TOTAL STOCK BIOMASS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	3.759	4.252	4.518	4.965	5.566	6.136	6.776	7.105	7.942
2012	1.381	1.804	2.086	2.552	3.178	3.751	4.444	4.769	5.578
2013	1.118	1.785	2.049	2.664	3.433	4.267	5.025	5.426	6.559
2014	3.482	4.134	4.536	5.339	6.454	8.093	11.773	17.024	27.170
2015	5.653	6.355	6.837	7.831	9.207	11.277	15.612	21.028	30.202
2016	7.617	8.531	9.122	10.423	12.654	17.522	27.235	32.289	40.076
2017	9.926	11.497	12.663	14.856	19.812	28.927	36.125	40.872	51.565
2018	12.133	14.671	16.084	19.442	26.533	35.078	42.678	47.990	57.463
2019	14.502	17.358	19.277	23.921	31.677	39.993	48.739	53.912	63.918
2020	16.404	19.674	22.015	27.650	35.529	44.495	53.096	58.090	68.574
2021	17.782	21.565	24.313	29.887	37.964	46.960	55.594	61.038	71.312
2022	19.098	23.115	25.687	31.612	39.629	48.609	57.531	62.945	73.034
2023	19.896	23.969	26.687	32.759	40.671	49.933	58.908	63.771	74.679
2024	20.914	24.673	27.330	33.351	41.512	50.787	59.573	65.125	75.532
2025	21.408	25.008	27.867	33.909	42.039	51.249	59.895	65.415	76.392
2026	21.597	25.446	28.091	34.133	42.518	51.739	60.427	65.740	75.714
2027	22.038	25.885	28.635	34.492	42.626	51.696	60.357	66.100	77.119
2028	22.342	25.945	28.652	34.793	42.955	51.960	60.696	66.777	76.363
2029	22.058	25.810	28.767	34.726	42.884	51.907	60.698	65.760	76.545
2030	21.997	26.016	28.738	34.869	43.009	51.892	60.654	66.182	76.755
2031	21.953	26.131	28.866	34.754	42.951	52.026	61.138	66.227	77.571
2032	22.244	26.083	28.704	34.842	43.120	52.215	61.213	66.636	76.912
2033	22.304	26.208	28.892	34.987	43.158	52.335	61.453	66.877	76.938
2034	22.165	26.139	28.912	35.021	43.177	52.505	61.360	66.857	77.138
2035	22.164	26.127	29.026	35.123	43.379	52.362	61.339	66.795	76.196
2036	22.243	26.210	29.130	35.005	43.239	52.507	60.886	66.327	77.073
2037	22.300	26.338	28.816	34.903	43.144	52.363	61.216	66.814	77.571
2038	22.330	26.071	28.852	35.032	43.029	52.287	61.280	66.984	77.554
2039	22.094	26.030	28.808	34.969	43.282	52.406	61.521	66.653	77.312
2040	21.996	25.905	28.767	35.086	43.376	52.525	61.409	66.799	77.553

ANNUAL PROBABILITY THAT TOTAL STOCK BIOMASS EXCEEDS THRESHOLD: 0.000 THOUSAND MT

YEAR	Pr(B >= Threshold Value) FOR FEASIBLE SIMULATIONS
2011	1.000
2012	1.000
2013	1.000
2014	1.000
2015	1.000
2016	1.000
2017	1.000
2018	1.000
2019	1.000
2020	1.000
2021	1.000
2022	1.000
2023	1.000
2024	1.000
2025	1.000
2026	1.000

2027	1.000
2028	1.000
2029	1.000
2030	1.000
2031	1.000
2032	1.000
2033	1.000
2034	1.000
2035	1.000
2036	1.000
2037	1.000
2038	1.000
2039	1.000
2040	1.000

Pr(B >= Threshold Value) AT LEAST ONCE:= 1.000

RECRUITMENT UNITS ARE: 1000.00000000000 FISH

YEAR CLASS	AVG RECRUITMENT	STD
2011	21248.913	17658.390
2012	17483.858	10450.875
2013	27086.362	23453.028
2014	38691.061	29034.431
2015	39015.768	28956.038
2016	39301.197	29217.726
2017	38881.723	28700.215
2018	38390.513	28833.363
2019	39023.987	28868.223
2020	38978.034	29166.332
2021	39079.530	28950.768
2022	38892.919	29052.793
2023	38976.775	29103.324
2024	39065.380	29196.806
2025	39130.751	29053.828
2026	38557.098	28753.987
2027	38964.266	28878.825
2028	38978.895	29073.805
2029	39321.988	29091.314
2030	39309.032	28993.072
2031	39251.663	29039.566
2032	39128.327	29187.736
2033	38810.575	28982.166
2034	38880.716	29002.097
2035	39018.159	28955.870
2036	39485.752	29197.761
2037	39155.565	29205.289
2038	38792.920	29000.091
2039	38351.608	28617.199
2040	38943.367	29047.720

PERCENTILES OF RECRUITMENT UNITS ARE: 1000.00000000000 FISH

YEAR CLASS	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	8555.765	9047.374	9511.379	11655.741	16875.612	22560.795	37994.431	56978.727	100874.749

2012	8553.035	8999.020	9399.101	11519.555	14815.618	19716.172	23327.988	36006.703	60288.357
2013	8498.350	9200.973	10140.197	13183.756	19024.762	25396.121	61161.434	87063.603	109277.223
2014	7470.300	10615.332	11518.212	19739.716	24611.214	53577.322	88620.875	100863.298	118330.558
2015	7835.477	10658.787	11846.165	20078.390	24641.989	53849.837	88694.692	100859.287	117692.723
2016	7743.371	10664.847	11691.170	20048.409	24689.513	53833.000	89837.132	100873.409	118537.307
2017	7957.312	10687.419	11739.940	19992.828	24665.477	53620.724	87706.673	100859.769	117121.234
2018	7730.351	10602.980	11526.222	19709.717	24575.511	53484.180	87619.971	100856.586	116680.471
2019	7585.606	10651.496	11736.221	19971.686	24660.361	53981.524	88283.914	100859.767	115908.073
2020	7784.913	10632.183	11615.899	19971.868	24618.166	53746.525	89722.794	100866.626	117205.043
2021	7726.855	10631.546	11650.748	20015.758	24661.369	54053.878	87826.321	100862.294	117371.910
2022	7848.219	10623.001	11655.313	20016.022	24637.206	53518.630	90144.291	100863.626	116515.081
2023	7797.186	10643.410	11658.583	19990.680	24631.768	53652.601	88897.123	100865.940	118061.246
2024	7721.813	10640.775	11683.654	19993.450	24651.143	53763.015	89838.971	100867.738	118108.861
2025	8007.722	10650.535	11717.105	20009.590	24681.498	53874.840	89597.480	100861.081	118487.365
2026	7798.345	10656.433	11697.525	20026.929	24611.974	53176.120	88315.980	100862.687	117419.251
2027	7681.721	10653.408	11730.002	19967.580	24650.941	53801.255	87747.682	100862.454	117437.877
2028	7787.312	10610.241	11641.148	19964.960	24631.953	53708.613	89255.790	100864.141	118647.542
2029	7671.512	10655.648	11697.446	20020.000	24673.326	54157.290	88947.156	100865.721	117671.898
2030	8006.702	10690.566	11898.784	20062.266	24701.122	54064.838	89133.494	100864.417	117557.447
2031	7679.255	10615.576	11589.680	19955.678	24676.313	54253.752	89075.131	100862.305	117474.770
2032	7756.529	10656.837	11721.335	19973.026	24663.406	54079.211	90527.635	100863.177	117853.309
2033	7765.272	10578.270	11501.033	19944.786	24608.613	53806.969	88326.323	100860.824	117017.658
2034	7674.628	10657.179	11706.410	19993.828	24651.208	53475.269	89043.874	100859.220	118054.078
2035	7580.087	10639.958	11643.143	19949.828	24666.804	54063.926	88745.629	100855.311	116973.012
2036	7853.706	10664.834	11683.805	20028.233	24663.727	54453.762	89288.610	100859.727	117377.341
2037	7667.497	10627.762	11710.166	20004.848	24658.478	53928.976	89064.953	100863.154	117072.053
2038	7489.963	10588.492	11601.498	19920.801	24614.489	53743.277	89038.263	100864.479	117026.631
2039	7545.411	10647.550	11618.015	19987.165	24635.134	53042.021	87063.259	100860.719	117018.790
2040	7833.248	10644.706	11664.636	19960.444	24645.630	53725.230	89465.911	100863.742	117251.613

LANDINGS (000 MT)

YEAR	AVG LANDINGS (000 MT)	STD
2011	2.650	0.000
2012	1.150	0.000
2013	0.826	0.305
2014	1.529	0.781
2015	2.216	0.985
2016	3.201	1.389
2017	4.455	1.756
2018	5.509	1.946
2019	6.376	2.094
2020	7.026	2.172
2021	7.446	2.208
2022	7.737	2.226
2023	7.931	2.247
2024	8.062	2.263
2025	8.150	2.262
2026	8.210	2.250
2027	8.253	2.244
2028	8.279	2.242
2029	8.284	2.242
2030	8.293	2.252
2031	8.306	2.263
2032	8.324	2.267
2033	8.343	2.264
2034	8.355	2.267

2035	8.357	2.259
2036	8.347	2.259
2037	8.338	2.272
2038	8.339	2.283
2039	8.351	2.282
2040	8.353	2.279

PERCENTILES OF LANDINGS (000 MT)

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	2.650	2.650	2.650	2.650	2.650	2.650	2.650	2.650	2.650
2012	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150
2013	0.337	0.449	0.511	0.626	0.776	0.950	1.192	1.459	1.890
2014	0.761	0.880	0.952	1.103	1.312	1.613	2.296	3.207	4.898
2015	1.181	1.321	1.418	1.613	1.919	2.472	3.282	4.290	6.063
2016	1.603	1.814	1.954	2.258	2.756	3.646	5.333	6.204	7.657
2017	2.078	2.401	2.621	3.085	3.977	5.570	6.910	7.806	9.687
2018	2.530	2.964	3.269	3.929	5.231	6.756	8.169	9.132	10.848
2019	2.922	3.466	3.841	4.718	6.170	7.677	9.242	10.207	12.041
2020	3.266	3.882	4.362	5.379	6.805	8.439	10.007	10.900	12.833
2021	3.548	4.223	4.717	5.760	7.225	8.872	10.456	11.419	13.324
2022	3.754	4.494	4.975	6.068	7.512	9.166	10.771	11.740	13.558
2023	3.923	4.643	5.163	6.247	7.704	9.365	10.979	11.880	13.892
2024	4.032	4.777	5.268	6.345	7.858	9.517	11.140	12.114	14.083
2025	4.142	4.843	5.348	6.447	7.940	9.608	11.187	12.197	14.142
2026	4.197	4.912	5.410	6.525	8.001	9.694	11.238	12.243	14.002
2027	4.279	4.965	5.480	6.566	8.039	9.688	11.297	12.281	14.244
2028	4.279	4.972	5.479	6.600	8.079	9.716	11.299	12.361	14.170
2029	4.257	4.976	5.497	6.607	8.090	9.729	11.355	12.260	14.217
2030	4.248	5.007	5.504	6.611	8.094	9.719	11.310	12.372	14.201
2031	4.255	5.001	5.536	6.605	8.105	9.752	11.385	12.349	14.379
2032	4.308	5.006	5.498	6.607	8.122	9.785	11.386	12.462	14.287
2033	4.305	5.024	5.526	6.630	8.147	9.804	11.457	12.454	14.195
2034	4.268	5.025	5.552	6.650	8.154	9.843	11.430	12.411	14.271
2035	4.308	5.028	5.556	6.645	8.160	9.826	11.433	12.352	14.150
2036	4.308	5.046	5.531	6.643	8.128	9.818	11.387	12.389	14.290
2037	4.251	5.030	5.530	6.636	8.120	9.790	11.418	12.424	14.359
2038	4.278	5.029	5.520	6.628	8.128	9.799	11.423	12.442	14.381
2039	4.252	5.001	5.523	6.638	8.141	9.830	11.443	12.396	14.282
2040	4.224	5.004	5.510	6.638	8.147	9.833	11.427	12.462	14.301

RETROSPECTIVE ADJUSTMENT COEFFICIENTS WERE APPLIED
TO THE POPULATION NUMBERS AT AGE IN YEAR: 2011

AGE	COEFFICIENT
1	0.587
2	0.587
3	0.587
4	0.587
5	0.587
6	0.587

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2011

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	792.6	1615.0	2768.4	4461.9	6587.3	9146.7	10962.2	12072.8	13000.3
2	166.4	230.3	262.4	344.3	461.4	592.1	731.1	834.1	986.6
3	721.3	994.3	1120.8	1389.0	1754.1	2198.4	2679.3	3003.8	3580.0

4	944.2	1217.9	1404.8	1692.2	2095.0	2519.3	3097.3	3461.2	4090.6
5	2043.2	2373.7	2563.7	2921.1	3337.6	3809.2	4266.7	4608.4	5141.5
6+	1248.0	1449.9	1566.0	1784.3	2038.6	2326.7	2606.2	2814.9	3140.5

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2012

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	8555.8	9047.4	9511.4	11655.7	16875.6	22560.8	37994.4	56978.7	100874.7
2	639.3	1307.4	2249.2	3622.9	5327.3	7411.1	8884.7	9786.5	10539.7
3	119.6	163.7	186.2	246.3	329.9	424.5	520.3	601.2	710.7
4	314.6	404.1	482.8	633.1	828.0	1071.2	1332.8	1516.0	1831.0
5	308.6	435.2	497.6	660.5	883.7	1110.1	1395.6	1638.3	2047.8
6+	878.1	1194.0	1400.4	1786.5	2272.7	2805.8	3360.8	3748.8	4392.6

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2013

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	8553.0	8999.0	9399.1	11519.6	14815.6	19716.2	23328.0	36006.7	60288.4
2	6947.5	7343.5	7721.4	9474.8	13704.0	18305.3	30936.7	46469.7	82217.4
3	455.8	953.8	1641.0	2719.1	4006.3	5560.1	6720.6	7470.2	8196.4
4	58.3	84.2	99.8	133.7	186.3	250.3	311.6	354.3	449.0
5	111.7	167.8	215.6	315.4	442.3	610.1	779.7	890.7	1110.0
6+	364.6	669.0	873.3	1254.6	1743.1	2242.1	2785.0	3196.2	3938.8

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2014

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	8498.3	9201.0	10140.2	13183.8	19024.8	25396.1	61161.4	87063.6	109277.2
2	6979.1	7343.1	7669.5	9399.8	12089.3	16088.1	19035.3	29380.9	49194.4
3	5447.3	5757.8	6054.1	7428.8	10744.9	14352.6	24256.5	36435.4	64464.0
4	314.0	657.2	1130.8	1873.7	2760.6	3831.3	4631.0	5147.5	5647.9
5	38.7	55.9	66.2	88.7	123.6	166.1	206.8	235.1	298.0
6+	330.0	590.0	758.1	1065.9	1487.8	1878.2	2324.4	2558.3	3095.3

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2015

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7470.3	10615.3	11518.2	19739.7	24611.2	53577.3	88620.9	100863.3	118330.6
2	6934.5	7507.9	8274.2	10757.7	15523.9	20722.8	49906.8	71042.5	89168.5
3	5472.1	5757.5	6013.4	7370.1	9478.8	12614.2	14924.9	23036.6	38571.7
4	3753.6	3967.5	4171.7	5119.0	7404.0	9890.0	16714.4	25106.6	44420.3
5	208.4	436.2	750.5	1243.5	1832.1	2542.7	3073.4	3416.2	3748.3
6+	254.5	441.4	563.7	778.2	1070.1	1339.8	1645.7	1809.2	2170.0

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2016

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7835.5	10658.8	11846.2	20078.4	24642.0	53849.8	88694.7	100859.3	117692.7
2	6095.6	8661.9	9398.7	16107.3	20082.4	43718.3	72313.3	82302.9	96555.9
3	5437.1	5886.7	6487.6	8434.8	12171.8	16248.1	39130.3	55702.2	69914.1
4	3770.7	3967.3	4143.7	5078.5	6531.6	8692.1	10284.4	15873.9	26578.7
5	2491.1	2633.0	2768.6	3397.2	4913.7	6563.5	11092.5	16662.0	29479.5
6+	555.8	906.2	1122.1	1502.7	1946.9	2461.7	2926.3	3183.5	3683.0

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2017

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7743.4	10664.8	11691.2	20048.4	24689.5	53833.0	89837.1	100873.4	118537.3
2	6393.6	8697.4	9666.3	16383.7	20107.5	43940.6	72373.5	82299.6	96035.4
3	4779.4	6791.6	7369.2	12629.2	15745.9	34278.1	56698.5	64531.0	75706.4
4	3746.6	4056.3	4470.4	5812.2	8387.2	11196.1	26963.6	38382.8	48175.9
5	2502.4	2632.9	2750.0	3370.3	4334.7	5768.5	6825.2	10534.7	17638.9
6+	2424.0	2796.1	3033.9	3560.7	4428.7	5638.9	8739.3	12759.7	21368.2

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2018

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7957.3	10687.4	11739.9	19992.8	24665.5	53620.7	87706.7	100859.8	117121.2
2	6318.5	8702.3	9539.8	16359.2	20146.3	43926.9	73305.7	82311.1	96724.6
3	5013.0	6819.4	7579.0	12845.9	15765.6	34452.4	56745.7	64528.5	75298.3
4	3293.3	4679.9	5077.9	8702.4	10850.1	23620.0	39069.3	44466.5	52167.1
5	2486.4	2692.0	2966.8	3857.3	5566.2	7430.3	17894.4	25472.7	31971.9
6+	3687.2	4118.0	4433.0	5124.9	6075.0	7499.1	10642.7	13593.7	20471.6

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2019

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7730.4	10603.0	11526.2	19709.7	24575.5	53484.2	87620.0	100856.6	116680.5
2	6493.0	8720.8	9579.6	16313.8	20126.6	43753.7	71567.3	82300.0	95569.1
3	4954.1	6823.2	7479.9	12826.7	15796.0	34441.7	57476.6	64537.5	75838.6
4	3454.3	4699.0	5222.5	8851.7	10863.6	23740.2	39101.9	44464.7	51885.9
5	2185.6	3105.8	3370.0	5775.4	7200.7	15675.5	25928.4	29510.2	34620.7
6+	4554.4	5124.3	5510.6	6364.6	7916.8	11124.2	18298.3	23083.5	27803.4

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2020

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7585.6	10651.5	11736.2	19971.7	24660.4	53981.5	88283.9	100859.8	115908.1
2	6307.8	8651.9	9405.2	16082.8	20053.2	43642.3	71496.5	82297.4	95209.4
3	5091.0	6837.7	7511.1	12791.2	15780.7	34305.8	56113.6	64528.8	74932.6
4	3413.7	4701.7	5154.2	8838.5	10884.6	23732.8	39605.5	44471.0	52258.2
5	2292.5	3118.5	3465.9	5874.5	7209.7	15755.2	25950.0	29509.0	34434.1
6+	5488.8	6474.0	7265.9	8791.9	11795.2	18444.0	24294.7	27073.3	33067.4

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2021

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7784.9	10632.2	11615.9	19971.9	24618.2	53746.5	89722.8	100866.6	117205.0
2	6189.7	8691.5	9576.6	16296.6	20122.5	44048.1	72038.3	82300.0	94579.2
3	4945.8	6783.6	7374.3	12610.0	15723.1	34218.5	56058.1	64526.7	74650.6
4	3508.1	4711.6	5175.7	8814.0	10874.0	23639.2	38666.3	44464.9	51634.0
5	2265.5	3120.3	3420.6	5865.7	7223.6	15750.3	26284.2	29513.2	34681.2
6+	6485.9	8121.1	9035.6	11055.9	15600.3	21488.2	26923.5	29991.5	36771.1

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2022

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7726.9	10631.5	11650.7	20015.8	24661.4	54053.9	87826.3	100862.3	117371.9
2	6352.4	8675.7	9478.4	16296.7	20088.0	43856.3	73212.4	82305.6	95637.5
3	4853.2	6814.7	7508.7	12777.6	15777.4	34536.7	56482.9	64528.8	74156.5
4	3408.0	4674.4	5081.4	8689.2	10834.3	23579.0	38628.1	44463.5	51439.6
5	2328.1	3126.9	3434.8	5849.4	7216.5	15688.1	25660.9	29509.2	34266.9

6+	7609.2	9310.3	10480.0	13034.1	17558.8	23495.8	29414.8	32774.2	38757.7

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2023

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7848.2	10623.0	11655.3	20016.0	24637.2	53518.6	90144.3	100863.6	116515.1
2	6305.0	8675.2	9506.8	16332.5	20123.3	44107.1	71664.9	82302.1	95773.7
3	4980.7	6802.3	7431.7	12777.7	15750.4	34386.3	57403.5	64533.2	74986.3
4	3344.2	4695.8	5174.0	8804.7	10871.7	23798.2	38920.8	44464.9	51099.1
5	2261.7	3102.2	3372.3	5766.6	7190.2	15648.2	25635.5	29508.2	34137.9
6+	8422.1	10270.6	11503.7	14278.1	18745.7	24911.1	30576.8	33851.3	39862.2

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2024

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7797.2	10643.4	11658.6	19990.7	24631.8	53652.6	88897.1	100865.9	118061.2
2	6404.0	8668.2	9510.6	16332.8	20103.6	43670.4	73556.3	82303.1	95074.5
3	4943.5	6801.9	7454.0	12805.8	15778.0	34583.0	56190.1	64530.4	75093.0
4	3432.0	4687.3	5121.0	8804.8	10853.1	23694.6	39555.1	44468.0	51670.9
5	2219.4	3116.4	3433.7	5843.2	7215.0	15793.7	25829.8	29509.2	33911.9
6+	8856.9	10923.0	12190.7	14900.7	19595.6	25499.5	31203.0	34672.6	41531.8

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2025

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7721.8	10640.8	11683.7	19993.5	24651.1	53763.0	89839.0	100867.7	118108.9
2	6362.4	8684.9	9513.2	16312.1	20099.1	43779.7	72538.7	82305.0	96336.1
3	5021.2	6796.5	7456.9	12806.0	15762.6	34240.5	57673.1	64531.2	74544.8
4	3406.5	4687.0	5136.3	8824.1	10872.2	23830.1	38719.0	44466.1	51744.5
5	2277.7	3110.7	3398.5	5843.3	7202.7	15725.0	26250.8	29511.2	34291.4
6+	9403.6	11360.1	12614.2	15574.1	20146.7	26154.1	31893.1	35291.8	41368.1

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2026

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	8007.7	10650.5	11717.1	20009.6	24681.5	53874.8	89597.5	100861.1	118487.4
2	6300.9	8682.7	9533.7	16314.3	20114.9	43869.8	73307.2	82306.5	96375.0
3	4988.5	6809.5	7459.0	12789.8	15759.1	34326.2	56875.2	64532.7	75534.0
4	3460.0	4683.2	5138.4	8824.2	10861.5	23594.2	39740.9	44466.6	51366.7
5	2260.7	3110.5	3408.7	5856.1	7215.3	15814.9	25695.9	29509.9	34340.2
6+	9845.7	11696.2	12970.4	15913.1	20490.2	26601.2	32371.2	35626.7	42279.6

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2027

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7798.3	10656.4	11697.5	20026.9	24612.0	53176.1	88316.0	100862.7	117419.3
2	6534.2	8690.7	9561.0	16327.5	20139.7	43961.0	73110.1	82301.1	96683.8
3	4940.3	6807.8	7475.0	12791.5	15771.5	34396.9	57477.8	64533.9	75564.5
4	3437.5	4692.2	5139.8	8813.1	10859.1	23653.2	39191.1	44467.7	52048.4
5	2296.2	3108.0	3410.1	5856.2	7208.3	15658.3	26374.1	29510.3	34089.5
6+	10088.3	11943.1	13160.3	16033.8	20786.9	26961.6	32642.3	36294.1	42372.5

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2028

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7681.7	10653.4	11730.0	19967.6	24650.9	53801.3	87747.7	100862.5	117437.9

2	6363.3	8695.5	9545.0	16341.7	20083.0	43390.9	72064.5	82302.4	95812.3
3	5123.2	6814.1	7496.5	12801.9	15790.9	34468.4	57323.3	64529.6	75806.7
4	3404.2	4691.1	5150.8	8814.3	10867.7	23701.9	39606.3	44468.5	52069.4
5	2281.3	3114.0	3411.0	5848.8	7206.7	15697.5	26009.2	29511.0	34541.9
6+	10281.5	12075.8	13329.4	16251.6	20894.2	26964.4	32823.4	36267.8	42681.4

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2029

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7787.3	10610.2	11641.1	19965.0	24632.0	53708.6	89255.8	100864.1	118647.5
2	6268.2	8693.0	9571.5	16293.2	20114.8	43901.0	71600.7	82302.2	95827.5
3	4989.3	6817.8	7483.9	12813.0	15746.4	34021.4	56503.4	64530.6	75123.3
4	3530.3	4695.4	5165.6	8821.4	10881.1	23751.2	39499.9	44465.5	52236.2
5	2259.2	3113.2	3418.4	5849.6	7212.3	15729.8	26284.7	29511.5	34555.8
6+	10192.6	12180.7	13439.0	16421.9	21113.2	27095.0	32740.6	36132.9	42384.3

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2030

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7671.5	10655.6	11697.4	20020.0	24673.3	54157.3	88947.2	100865.7	117671.9
2	6354.3	8657.8	9499.0	16291.1	20099.3	43825.4	72831.3	82303.6	96814.5
3	4914.7	6815.9	7504.7	12775.0	15771.4	34421.3	56139.8	64530.5	75135.2
4	3438.0	4698.0	5157.0	8829.1	10850.4	23443.2	38934.9	44466.2	51765.3
5	2342.9	3116.1	3428.1	5854.3	7221.2	15762.5	26214.1	29509.6	34666.6
6+	10471.0	12370.8	13670.2	16541.3	21056.2	27105.5	32790.8	36428.2	42945.7

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2031

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	8006.7	10690.6	11898.8	20062.3	24701.1	54064.8	89133.5	100864.4	117557.4
2	6259.8	8694.8	9544.9	16336.0	20133.1	44191.5	72579.5	82304.9	96018.4
3	4982.2	6788.3	7447.9	12773.3	15759.2	34362.1	57104.7	64531.6	75909.2
4	3386.6	4696.7	5171.3	8802.9	10867.6	23718.8	38684.4	44466.1	51773.6
5	2281.6	3117.8	3422.4	5859.4	7200.9	15558.1	25839.2	29510.0	34354.1
6+	10587.8	12414.7	13681.5	16560.7	21222.5	27227.1	33123.7	36475.8	42531.4

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2032

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7679.3	10615.6	11589.7	19955.7	24676.3	54253.8	89075.1	100862.3	117474.8
2	6533.3	8723.3	9709.2	16370.5	20155.7	44116.1	72731.5	82303.8	95925.0
3	4908.1	6817.3	7483.9	12808.5	15785.7	34649.1	56907.2	64532.6	75284.9
4	3433.1	4677.6	5132.1	8801.7	10859.2	23677.9	39349.2	44466.9	52306.8
5	2247.5	3116.9	3431.9	5842.0	7212.3	15741.0	25672.9	29510.0	34359.5
6+	10412.3	12351.6	13655.2	16535.4	21209.3	27136.4	32829.7	36378.3	42750.9

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2033

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7756.5	10656.8	11721.3	19973.0	24663.4	54079.2	90527.6	100863.2	117853.3
2	6266.2	8662.1	9457.0	16283.5	20135.5	44270.2	72683.9	82302.1	95857.6
3	5122.6	6839.7	7612.7	12835.6	15803.5	34590.0	57026.4	64531.7	75211.7
4	3382.1	4697.6	5156.9	8826.0	10877.5	23875.7	39213.2	44467.6	51876.7
5	2278.4	3104.3	3405.9	5841.3	7206.7	15713.9	26114.1	29510.5	34713.5
6+	10497.0	12395.7	13667.4	16539.5	21207.3	27081.7	32925.5	36559.5	43046.9

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2034

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7765.3	10578.3	11501.0	19944.8	24608.6	53807.0	88326.3	100860.8	117017.7
2	6329.2	8695.8	9564.4	16297.7	20125.0	44127.8	73869.1	82302.8	96166.5
3	4913.1	6791.7	7414.9	12767.4	15787.6	34710.8	56989.1	64530.4	75158.8
4	3529.8	4713.0	5245.7	8844.6	10889.7	23835.0	39295.3	44467.0	51826.3
5	2244.5	3117.6	3422.4	5857.4	7218.8	15845.1	26023.8	29510.9	34428.0
6+	10442.6	12474.7	13714.2	16564.6	21159.9	27226.8	33084.0	36618.0	42735.2

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2035

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7674.6	10657.2	11706.4	19993.8	24651.2	53475.3	89043.9	100859.2	118054.1
2	6336.3	8631.7	9384.7	16274.6	20080.2	43905.6	72072.9	82300.9	95484.6
3	4962.5	6818.1	7499.2	12778.5	15779.3	34599.2	57918.4	64530.9	75401.0
4	3385.5	4680.0	5109.4	8797.6	10878.8	23918.3	39269.6	44466.1	51789.8
5	2342.6	3127.8	3481.3	5869.7	7227.0	15818.1	26078.3	29510.5	34394.5
6+	10481.1	12360.3	13646.9	16539.1	21400.9	27425.2	33161.2	36794.8	42759.6

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2036

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7580.1	10640.0	11643.1	19949.8	24666.8	54063.9	88745.6	100855.3	116973.0
2	6262.4	8696.1	9552.2	16314.7	20115.0	43635.0	72658.4	82299.6	96330.3
3	4968.1	6767.8	7358.2	12760.4	15744.3	34425.0	56510.0	64529.4	74866.4
4	3419.5	4698.2	5167.5	8805.3	10873.1	23841.3	39909.9	44466.4	51956.7
5	2246.8	3105.9	3390.9	5838.6	7219.7	15873.4	26061.3	29509.9	34370.3
6+	10455.6	12453.9	13697.9	16688.7	21485.9	27431.4	33168.0	36730.2	42816.1

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2037

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7853.7	10664.8	11683.8	20028.2	24663.7	54453.8	89288.6	100859.7	117377.3
2	6185.2	8682.0	9500.6	16278.7	20127.7	44115.3	72415.1	82296.4	95448.2
3	4910.1	6818.3	7489.6	12791.8	15771.5	34212.8	56969.1	64528.4	75529.5
4	3423.4	4663.5	5070.3	8792.8	10848.9	23721.3	38939.5	44465.4	51588.3
5	2269.4	3117.9	3429.4	5843.6	7215.9	15822.3	26486.2	29510.2	34481.1
6+	10448.9	12430.3	13753.7	16666.3	21410.9	27423.2	33348.9	36621.0	43131.9

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2038

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7667.5	10627.8	11710.2	20004.8	24658.5	53929.0	89065.0	100863.2	117072.1
2	6408.5	8702.3	9533.8	16342.7	20125.2	44433.4	72858.1	82300.0	95778.1
3	4849.6	6807.3	7449.1	12763.6	15781.5	34589.4	56778.3	64525.9	74837.8
4	3383.4	4698.3	5160.9	8814.5	10867.7	23575.1	39255.8	44464.7	52045.2
5	2271.9	3095.0	3364.9	5835.4	7199.9	15742.6	25842.2	29509.5	34236.6
6+	10566.1	12474.3	13719.6	16692.6	21448.6	27377.6	33227.2	36673.0	43135.6

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2039

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7490.0	10588.5	11601.5	19920.8	24614.5	53743.3	89038.3	100864.5	117026.6
2	6256.6	8672.1	9555.3	16323.6	20120.9	44005.2	72675.6	82302.8	95529.0
3	5024.7	6823.2	7475.1	12813.8	15779.5	34838.8	57125.7	64528.7	75096.5

4	3341.8	4690.7	5133.0	8795.1	10874.6	23834.6	39124.3	44463.0	51568.6
5	2245.4	3118.0	3425.0	5849.7	7212.4	15645.6	26052.1	29509.0	34539.8
6+	10516.3	12464.4	13727.5	16677.9	21297.2	27489.3	33080.8	36380.3	43319.8

PERCENTILES OF POPULATION NUMBERS AT AGE VECTOR (000s FISH)
IN YEAR: 2040

AGE	1%	5%	10%	25%	50%	75%	90%	95%	99%
1	7545.4	10647.5	11618.0	19987.2	24635.1	53042.0	87063.3	100860.7	117018.8
2	6111.7	8640.0	9466.6	16255.1	20085.0	43853.7	72653.8	82303.8	95491.9
3	4905.6	6799.5	7492.0	12798.8	15776.2	34503.1	56982.6	64530.9	74901.2
4	3462.4	4701.7	5150.9	8829.6	10873.2	24006.4	39363.7	44464.9	51746.9
5	2217.8	3113.0	3406.5	5836.8	7216.9	15817.8	25964.9	29507.9	34223.5
6+	10534.5	12496.5	13737.6	16580.6	21278.9	27335.1	33176.0	36748.6	42921.9

REALIZED F SERIES

YEAR	AVG F	STD
2011	0.684	0.157
2012	0.450	0.168
2013	0.210	0.000
2014	0.210	0.000
2015	0.210	0.000
2016	0.210	0.000
2017	0.210	0.000
2018	0.210	0.000
2019	0.210	0.000
2020	0.210	0.000
2021	0.210	0.000
2022	0.210	0.000
2023	0.210	0.000
2024	0.210	0.000
2025	0.210	0.000
2026	0.210	0.000
2027	0.210	0.000
2028	0.210	0.000
2029	0.210	0.000
2030	0.210	0.000
2031	0.210	0.000
2032	0.210	0.000
2033	0.210	0.000
2034	0.210	0.000
2035	0.210	0.000
2036	0.210	0.000
2037	0.210	0.000
2038	0.210	0.000
2039	0.210	0.000
2040	0.210	0.000

PERCENTILES OF REALIZED F SERIES

YEAR	1%	5%	10%	25%	50%	75%	90%	95%	99%
2011	0.414	0.475	0.505	0.575	0.657	0.772	0.883	0.969	1.172
2012	0.219	0.259	0.286	0.341	0.407	0.514	0.659	0.780	1.029
2013	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2014	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2015	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2016	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2017	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210

2018	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2019	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2020	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2021	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2022	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2023	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2024	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2025	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2026	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2027	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2028	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2029	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2030	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2031	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2032	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2033	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2034	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2035	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2036	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2037	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2038	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2039	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210
2040	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210	0.210

ANNUAL PROBABILITY FULLY-RECRUITED F EXCEEDS THRESHOLD: 0.250

YEAR	Pr(F > Threshold Value) FOR FEASIBLE SIMULATIONS
2011	1.000
2012	0.966
2013	0.000
2014	0.000
2015	0.000
2016	0.000
2017	0.000
2018	0.000
2019	0.000
2020	0.000
2021	0.000
2022	0.000
2023	0.000
2024	0.000
2025	0.000
2026	0.000
2027	0.000
2028	0.000
2029	0.000
2030	0.000
2031	0.000
2032	0.000
2033	0.000
2034	0.000
2035	0.000
2036	0.000
2037	0.000
2038	0.000
2039	0.000
2040	0.000