

# Trends of Fishing Mortality and Spawning stock biomass

## Atlantic Stock Unit

SSB VPA estimated value					
Million hydrated eggs					
Year	Deterministic	low CI	Median	upp CI	
1981	4508		4496	4509	4551
1982	4568		4555	4569	4615
1983	4587		4573	4589	4640
1984	4498		4483	4500	4555
1985	4418		4400	4420	4483
1986	4275		4253	4277	4353
1987	4086		4059	4089	4182
1988	3873		3842	3877	3985
1989	3555		3520	3559	3682
1990	3545		3500	3550	3705
1991	3580		3520	3587	3797
1992	3369		3294	3377	3640
1993	3098		3010	3108	3416
1994	2962		2861	2973	3328
1995	2873		2753	2887	3307
1996	2847		2698	2864	3383
1997	2824		2643	2844	3474
1998	2701		2494	2722.5	3439
1999	2641		2410	2664.5	3433
2000	2640		2382	2658.5	3442
2001	2476		2194	2485.5	3258
2002	2377		2069	2374	3119
2003	2341		2000	2320	3008
2004	2365		1958	2336	3038
2005	2433		1973	2426.5	3102
2006	2443		1951	2476.5	3203

SSB/MSST					
Year	Deterministic	low CI	Median	upp CI	
1981	2.468		2.463	2.470	2.492
1982	2.501		2.495	2.503	2.528
1983	2.512		2.505	2.514	2.541
1984	2.463		2.455	2.465	2.495
1985	2.419		2.410	2.421	2.455
1986	2.341		2.330	2.343	2.383
1987	2.237		2.224	2.240	2.290
1988	2.121		2.105	2.124	2.182
1989	1.947		1.928	1.950	2.015
1990	1.941		1.917	1.945	2.028
1991	1.960		1.928	1.965	2.078
1992	1.845		1.804	1.851	2
1993	1.696		1.648	1.703	1.869
1994	1.622		1.567	1.629	1.820
1995	1.573		1.508	1.582	1.808
1996	1.559		1.478	1.570	1.849
1997	1.546		1.448	1.559	1.898
1998	1.479		1.367	1.493	1.877
1999	1.446		1.320	1.459	1.872
2000	1.446		1.305	1.456	1.883
2001	1.356		1.202	1.361	1.782
2002	1.302		1.134	1.300	1.706
2003	1.282		1.095	1.271	1.647
2004	1.295		1.074	1.280	1.657
2005	1.332		1.081	1.329	1.697
2006	1.338		1.071	1.357	1.749

F apical VPA estimate					
fishing mortality rate					
Year	Deterministic	low CI	Median	upp CI	
1981	0.442		0.440	0.442	0.443
1982	0.386		0.383	0.386	0.387
1983	0.382		0.378	0.381	0.382
1984	0.287		0.284	0.287	0.288
1985	0.441		0.437	0.441	0.442
1986	0.288		0.284	0.288	0.289
1987	0.208		0.205	0.208	0.209
1988	0.287		0.282	0.287	0.289
1989	0.219		0.213	0.219	0.220
1990	0.331		0.320	0.331	0.334
1991	0.311		0.297	0.311	0.316
1992	0.345		0.325	0.344	0.351
1993	0.318		0.293	0.317	0.326
1994	0.252		0.226	0.251	0.260
1995	0.361		0.318	0.360	0.376
1996	0.366		0.314	0.364	0.383
1997	0.390		0.320	0.388	0.416
1998	0.315		0.240	0.312	0.346
1999	0.233		0.165	0.230	0.264
2000	0.263		0.203	0.259	0.298
2001	0.285		0.248	0.287	0.305
2002	0.269		0.245	0.274	0.294
2003	0.358		0.284	0.362	0.406
2004	0.377		0.324	0.393	0.455
2005	0.344		0.296	0.373	0.458
2006	0.359		0.310	0.409	0.534

Fcurr/ MFMT					
Year	Deterministic	low CI	Median	upp CI	
1983	0.914		0.784	0.854	0.919
1984	0.745		0.637	0.695	0.749
1985	0.754		0.645	0.704	0.758
1986	1.010		0.863	0.943	1.016
1987	0.804		0.684	0.751	0.808
1988	0.613		0.521	0.572	0.616
1989	0.623		0.528	0.581	0.625
1990	0.669		0.566	0.625	0.672
1991	0.683		0.575	0.638	0.684
1992	0.815		0.680	0.762	0.817
1993	0.974		0.802	0.912	0.977
1994	0.937		0.758	0.878	0.940
1995	0.831		0.658	0.780	0.835
1996	0.906		0.703	0.852	0.913
1997	1.154		0.873	1.086	1.165
1998	1.025		0.746	0.965	1.043
1999	0.783		0.530	0.737	0.814
2000	0.705		0.477	0.666	0.739
2001	0.725		0.517	0.687	0.747
2002	0.718		0.551	0.684	0.740
2003	0.771		0.628	0.741	0.814
2004	0.893		0.725	0.877	0.983
2005	0.984		0.811	0.985	1.150
2006	1.006		0.869	1.076	1.306

**Gulf of Mexico Stock Unit**

<b>SSB VPA estimated value Million hydrated eggs</b>				
Year	Deterministic	low CI	Median	upp CI
1981	2123	2103	2111	2124
1982	2036	2015	2023	2036
1983	1555	1532	1541	1556
1984	1590	1565	1574.5	1591
1985	1502	1473	1484	1503
1986	1532	1495	1509	1534
1987	1590	1543	1561	1592
1988	1731	1676	1697	1733
1989	1748	1680	1706	1751
1990	1885	1796	1830	1888
1991	2040	1929	1972	2045
1992	2215	2072	2126.5	2220
1993	2245	2070	2137.5	2252
1994	2265	2052	2134	2273
1995	2210	1932	2038.5	2220
1996	2340	1987	2123	2353
1997	2443	2006	2174	2459
1998	2509	1979	2185.5	2531
1999	2658	2036	2286.5	2700
2000	2788	2106	2396.5	2850
2001	2876	2162	2487	2968
2002	2873	2180	2526	3032
2003	2872	2226	2578	3091
2004	2955	2343	2728	3218
2005	3285	2645	3116	3644
2006	3921	3224	3846	4512

<b>SSB/MSST</b>				
Year	Deterministic	low CI	Median	upp CI
1981	0.811	0.804	0.807	0.812
1982	0.778	0.770	0.773	0.779
1983	0.594	0.586	0.589	0.595
1984	0.607	0.598	0.602	0.608
1985	0.574	0.563	0.567	0.575
1986	0.585	0.572	0.577	0.586
1987	0.607	0.590	0.597	0.608
1988	0.661	0.641	0.649	0.662
1989	0.668	0.643	0.652	0.669
1990	0.720	0.687	0.700	0.722
1991	0.779	0.738	0.754	0.782
1992	0.846	0.792	0.813	0.849
1993	0.857	0.792	0.817	0.861
1994	0.865	0.785	0.816	0.869
1995	0.844	0.739	0.779	0.849
1996	0.894	0.760	0.811	0.900
1997	0.933	0.767	0.831	0.940
1998	0.958	0.757	0.835	0.967
1999	1.015	0.779	0.874	1.032
2000	1.065	0.806	0.916	1.089
2001	1.098	0.828	0.951	1.134
2002	1.097	0.834	0.966	1.159
2003	1.097	0.851	0.987	1.180
2004	1.129	0.896	1.043	1.227
2005	1.255	1.012	1.191	1.394
2006	1.498	1.237	1.471	1.725

<b>F apical VPA estimate fishing mortality rate</b>				
Year	Deterministic	low CI	Median	upp CI
1981	0.340	0.340	0.342	0.343
1982	1.008	1.008	1.012	1.014
1983	0.413	0.413	0.414	0.415
1984	0.427	0.427	0.429	0.430
1985	0.558	0.558	0.561	0.563
1986	0.556	0.556	0.561	0.565
1987	0.493	0.492	0.499	0.504
1988	0.368	0.367	0.383	0.393
1989	0.548	0.548	0.557	0.563
1990	0.422	0.421	0.439	0.449
1991	0.568	0.568	0.586	0.597
1992	0.713	0.711	0.732	0.745
1993	0.508	0.505	0.552	0.584
1994	0.681	0.679	0.707	0.724
1995	0.537	0.535	0.582	0.614
1996	0.378	0.375	0.420	0.451
1997	0.294	0.292	0.336	0.369
1998	0.313	0.311	0.362	0.401
1999	0.346	0.306	0.339	0.365
2000	0.313	0.259	0.286	0.313
2001	0.212	0.191	0.214	0.239
2002	0.177	0.158	0.185	0.220
2003	0.225	0.202	0.263	0.332
2004	0.223	0.176	0.210	0.257
2005	0.239	0.195	0.233	0.279
2006	0.288	0.212	0.254	0.313

<b>Fcurr/ MFMT</b>				
Year	Deterministic	low CI	Median	upp CI
1983	1.446	1.385	1.530	1.647
1984	1.434	1.376	1.520	1.637
1985	1.398	1.347	1.489	1.607
1986	1.343	1.294	1.431	1.544
1987	1.440	1.387	1.532	1.654
1988	1.613	1.558	1.726	1.863
1989	1.846	1.790	1.983	2.141
1990	1.754	1.713	1.899	2.053
1991	2.027	1.974	2.187	2.367
1992	1.866	1.829	2.032	2.199
1993	1.984	1.957	2.186	2.382
1994	1.942	1.924	2.169	2.373
1995	2.095	2.077	2.365	2.603
1996	1.898	1.889	2.159	2.379
1997	1.536	1.516	1.754	1.935
1998	1.267	1.233	1.424	1.570
1999	1.231	1.165	1.323	1.453
2000	1.273	1.153	1.290	1.412
2001	1.132	0.974	1.119	1.236
2002	0.854	0.738	0.843	0.942
2003	0.765	0.709	0.826	0.958
2004	0.778	0.692	0.810	0.952
2005	0.826	0.728	0.899	1.106
2006	0.827	0.714	0.828	0.969

Trends of landing and dead discards for King mackerel stock units VPA final models (50% split of catch in mix zone-winter between stock units)

Table 1. Estimates of total landings (million lbs whole weight) for the king mackerel Atlantic stock including the 50% split of catch in the Mixing-winter area\*. Fishing year is April 1st through March 31th of following year, winter catches include from Nov 1st through March 31th. [1000 tonnes equivalent to 2.204 million pounds]

Fishing Year	Commercial million lbs	Recreational million lbs	Total wt	Commercial numbers	Recreational numbers	Total numbers
1981/82	5.142	4.754	9.896	480,266	672,661	1,152,928
1982/83	5.587	4.878	10.474	497,104	618,612	1,115,717
1983/84	3.627	6.353	9.980	328,327	828,373	1,157,700
1984/85	3.049	5.546	8.595	254,999	876,709	931,648
1985/86	3.781	6.215	9.996	286,533	876,422	1,161,954
1986/87	3.313	5.972	9.286	313,989	875,388	1,189,387
1987/88	3.730	3.572	7.301	392,905	627,079	1,019,983
1988/89	3.549	4.975	8.524	858,110	693,435	1,051,545
1989/90	3.247	3.404	6.651	303,412	477,546	780,959
1990/91	3.232	3.549	6.781	356,494	526,174	882,667
1991/92	3.186	6.310	9.496	337,728	831,938	1,169,667
1992/93	3.374	6.385	9.760	308,504	812,354	1,120,858
1993/94	2.766	4.245	7.011	260,266	427,433	687,698
1994/95	2.980	3.728	6.688	289,440	455,905	725,345
1995/96	2.675	4.651	7.225	223,112	592,380	815,492
1996/97	3.601	4.600	8.201	376,671	523,291	899,962
1997/98	3.636	5.490	9.126	361,157	664,584	1,025,741
1998/99	3.770	4.420	8.190	363,327	541,535	904,862
1999/00	2.933	3.149	6.082	299,869	409,295	709,165
2000/01	2.951	4.624	7.575	273,692	589,034	862,725
2001/02	2.853	3.786	6.638	236,627	383,171	619,798
2002/03	2.721	2.923	5.644	245,148	385,442	630,591
2003/04	2.623	3.903	6.526	228,115	489,948	718,063
2004/05	3.785	3.870	7.635	356,888	409,594	766,482
2005/06	3.187	3.011	6.198	297,772	442,268	740,071
2006/07	3.731	3.775	7.506	357,484	497,313	854,807

Table 2. Estimates of total landings (million lbs whole weight) for the king mackerel GOM stock including the 50% split of catch in the Mixing-winter area\*. Fishing year is July 1st through June 30th of following year, winter catches include from Nov 1st through March 31th. [1000 tonnes equivalent to 2.204 million pounds]

Fishing Year	Commercial million lbs	Recreational million lbs	Total	Commercial numbers	Recreational numbers	Total numbers
1981/82	2.894	2.124	5.018	449,537	254,017	703,554
1982/83	2.981	6.450	9.432	333,480	791,845	1,125,325
1983/84	1.786	1.969	3.755	264,527	332,643	627,171
1984/85	2.103	2.580	4.682	252,870	400,486	653,357
1985/86	2.265	1.668	3.933	324,790	195,360	520,179
1986/87	0.997	2.405	3.402	186,592	387,802	523,394
1987/88	0.591	1.364	1.956	73,968	228,302	302,270
1988/89	0.948	3.589	4.506	103,859	410,210	514,069
1989/90	1.343	2.254	3.596	163,674	420,566	584,230
1990/91	1.260	2.659	3.919	170,529	400,469	570,998
1991/92	1.448	2.902	4.350	180,768	571,667	752,435
1992/93	2.452	3.795	6.187	371,597	476,770	848,367
1993/94	1.824	5.372	7.492	286,647	649,925	936,572
1994/95	2.120	5.372	7.492	286,647	649,925	936,572
1995/96	1.840	3.576	5.416	247,401	462,121	729,522
1996/97	1.966	4.499	6.404	307,525	516,774	824,299
1997/98	2.469	3.662	6.132	322,152	477,714	799,866
1998/99	2.673	2.909	5.582	365,877	370,742	736,620
1999/00	2.271	2.312	4.583	283,018	323,146	606,164
2000/01	2.234	2.723	4.957	286,303	386,283	672,586
2001/02	2.103	2.752	4.929	263,148	400,567	683,715
2002/03	2.253	2.797	5.005	347,289	407,184	754,473
2003/04	2.290	2.797	5.087	311,588	365,081	676,669
2004/05	2.284	2.628	4.913	355,707	361,502	717,209
2005/06	2.103	2.982	5.095	305,755	414,580	720,345
2006/07	2.417	3.343	5.761	325,725	508,383	834,118

Table 3. Estimates of recreational landings by sector (million lbs whole wgt) for king mackerel stock units including 50% split of catch in the mixing-winter area.

Stock	Fyear	MRFSS		Stock	Fyear	MRFSS		Total
		Headboat million lbs	Total million			Headboat million lbs	Total million	
ATL	1981	-	4.754	GOM	1981	0.024	2.099	2.124
	1982	-	4.878		1982	0.110	6.340	6.450
	1983	-	6.353		1983	0.096	1.873	1.969
	1984	-	5.546		1984	0.085	2.494	2.580
	1985	0.010	6.215		1985	0.119	1.548	1.668
	1986	0.283	5.689		1986	0.168	2.237	2.405
	1987	0.207	3.365		1987	0.094	1.270	1.364
	1988	0.183	4.792		1988	0.103	3.455	3.559
	1989	0.176	3.228		1989	0.152	2.101	2.254
	1990	0.229	3.320		1990	0.141	2.518	2.659
	1991	0.251	6.059		1991	0.148	2.754	2.902
	1992	0.179	6.206		1992	0.204	3.531	3.735
	1993	0.161	4.084		1993	0.228	3.429	3.657
	1994	0.177	3.551		1994	0.196	5.177	5.372
	1995	0.137	4.414		1995	0.195	3.381	3.576
	1996	0.311	4.289		1996	0.271	4.168	4.439
	1997	0.168	5.323		1997	0.285	3.378	3.662
	1998	0.123	4.298		1998	0.172	2.737	2.909
	1999	0.151	2.998		1999	0.220	2.092	2.313
	2000	0.150	4.474		2000	0.137	2.586	2.723
	2001	0.102	3.683		2001	0.146	2.681	2.827
	2002	0.094	2.830		2002	0.183	2.569	2.752
	2003	0.075	3.829		2003	0.135	2.662	2.797
	2004	0.141	3.728		2004	0.214	2.415	2.629
	2005	0.184	2.826		2005	0.221	2.771	2.992
	2006	0.154	3.621		2006	0.243	3.100	3.343

Table 4. Shrimp Bycatch estimates Base model

Fishing Year	Age 0 numbers of fish	
	Gulf	Atlantic
1981/82	560,714	-
1982/83	234,807	-
1983/84	447,285	-
1984/85	1,467,069	-
1985/86	725,460	-
1986/87	811,806	-
1987/88	1,476,385	-
1988/89	1,690,808	-
1989/90	2,742,900	23,369
1990/91	2,093,187	64,146
1991/92	2,014,732	25,742
1992/93	1,465,161	27,117
1993/94	2,789,829	13,497
1994/95	3,136,550	21,055
1995/96	2,739,787	40,141
1996/97	1,376,113	59,534
1997/98	1,348,322	15,744
1998/99	1,193,085	47,539
1999/00	1,210,741	32,003
2000/01	1,078,106	18,381
2001/02	772,155	7,198
2002/03	641,061	8,479
2003/04	1,542,801	15,383
2004/05	2,888,286	8,185
2005/06	1,909,170	7,202
2006/07	923,292	13,120

Table 5. Dead discards numbers of fish

Fishing Year	All recreational fisheries only		AVE wgt Atlantic	AVE wgt Gulf	AVE wgt Atlantic	Dead disc wgt lbs	Dead disc wgt lbs
	Gulf	Atlantic					
1981/82	2,002	494	8.35	7.06	16,721	3,491	
1982/83	6,241	232	8.14	7.88	50,804	1,828	
1983/84	26	52	5.91	7.66	155	398	
1984/85	1,759	303	6.44	8.19	11,317	2,481	
1985/86	1,999	2,617	8.53	7.09	17,042	18,541	
1986/87	5,908	8,770	6.20	6.82	36,603	59,782	
1987/88	7,366	9,324	5.97	5.69	43,978	53,060	
1988/89	9,807	8,812	8.67	7.17	84,999	63,169	
1989/90	26,236	6,103	5.35	7.12	140,462	43,467	
1990/91	33,620	7,012	6.63	6.74	223,019	47,253	
1991/92	31,141	16,604	5.07	7.58	157,939	125,827	
1992/93	16,655	8,011	7.83	7.85	130,361	62,914	
1993/94	21,886	7,471	7.15	9.92	156,441	74,142	
1994/95	37,025	6,246	8.26	8.17	305,779	51,032	
1995/96	32,092	14,357	7.41	7.67	237,824	110,189	
1996/97	26,028	13,369	8.58	8.78	223,368	117,410	
1997/98	21,158	19,585	7.66	8.25	162,057	161,648	
1998/99	23,037	17,020	7.84	8.16	180,585	138,802	
1999/00	20,088	20,356	7.15	7.69	143,617	156,468	
2000/01	29,799	18,589	7.04	7.84	209,861	145,791	
2001/02	64,614	25,042	7.05	9.87	455,569	247,185	
2002/03	53,170	19,826	6.75	7.58	359,071	150,235	
2003/04	41,252	27,671	7.65	7.96	315,775	220,264	
2004/05	53,527	27,253	7.26	9.44	388,827	257,241	
2005/06	84,446	38,118	7.21	6.80	608,938	259,237	
2006/07	63,644	32,020	6.57	7.58	418,172	242,821	

Yield of landings projections series for King mackerel stock units from the VPA final models (as per recommendation of the

\* 2006 last fishing year of assessment

\*\* 2007 fishing year projected as Fcurrent

Note similar tables presented in SEDAR 16 RW-01 document refer to total removals, landings plus dead discards.

Atlantic stock unit

	2006*	2007**	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>YIELD landings kg</b>											
<b>F30%SPR</b>											
Deterministic run	4469000	4208000	4288000	4195000	4152000	4142000	4019000	3986000	3989000	3963000	3948000
low CL	4469000	3821000	3269000	3321000	3395000	3500000	3488000	3491000	3511000	3477000	3453000
Median	4469000	4414500	4425000	4427500	4452500	4448000	4321000	4211500	4187000	4159500	4156500
upp CL	4469000	5196000	5926000	5829000	5762000	5611000	5347000	5188000	5171000	5145000	5098000
<b>F40%SPR</b>											
Deterministic run	4469000	4208000	3025000	3155000	3284000	3412000	3391000	3424000	3477000	3480000	3486000
low CL	4469000	3821000	2302000	2494000	2682000	2892000	2947000	2994000	3064000	3074000	3069000
Median	4469000	4414500	3127500	3324000	3525500	3685500	3671000	3655500	3661000	3649000	3665000
upp CL	4469000	5196000	4205000	4403000	4572000	4674000	4536000	4493000	4489000	4502000	4451000
<b>Fcurrent</b>											
Deterministic run	4469000	4208000	4311000	4213000	4166000	4153000	4028000	3994000	3996000	3969000	3954000
low CL	4469000	3821000	3808000	3689000	3601000	3640000	3574000	3549000	3537000	3481000	3489000
Median	4469000	4414500	4658500	4567500	4539000	4526500	4382000	4254500	4236500	4210500	4185000
upp CL	4469000	5196000	5699000	5767000	5762000	5696000	5381000	5265000	5264000	5184000	5140000
<b>F 85%SPR30</b>											
Deterministic run	4469000	4208000	3706000	3736000	3785000	3845000	3771000	3769000	3796000	3782000	3777000
low CL	4469000	3821000	2655000	2840000	2960000	3117000	3169000	3210000	3242000	3225000	3213000
Median	4469000	4414500	3582500	3747500	3888000	4000500	3957500	3892500	3887000	3878500	3885000
upp CL	4469000	5196000	4841000	4972000	4991000	5042000	4861000	4792000	4776000	4776000	4711000
<b>F 75%SPR30</b>											
Deterministic run	4469000	4208000	3307000	3401000	3501000	3603000	3561000	3580000	3622000	3619000	3620000
low CL	4469000	3821000	2367000	2581000	2724000	2905000	2988000	3034000	3072000	3074000	3071000
Median	4469000	4414500	3196000	3404500	3589000	3735000	3735000	3689000	3702000	3692000	3701500
upp CL	4469000	5196000	4317000	4516000	4616000	4725000	4583000	4533000	4557000	4534000	4502000
<b>F 65%SPR30</b>											
Deterministic run	4469000	4208000	2899000	3042000	3183000	3320000	3309000	3347000	3405000	3411000	3419000
low CL	4469000	3821000	2076000	2308000	2469000	2664000	2754000	2821000	2869000	2885000	2889000
Median	4469000	4414500	2799000	3039000	3254500	3430500	3459000	3447500	3475500	3461500	3478500
upp CL	4469000	5196000	3781000	4034000	4194000	4347000	4255000	4224000	4267000	4265000	4244000

Gulf of Mexico stock unit

Row Labels	Column Labels										
	2006*	2007**	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>YIELD landings kg</b>											
<b>Fcurrent</b>											
Deterministic run	4037000	5357000	6529000	6875000	6589000	5907000	5251000	4818000	4517000	4387000	4289000
low CL	4037000	4909000	5583000	5691000	5486000	5140000	4724000	4489000	4219000	4064000	3972000
Median boots	4037000	5430500	6535500	6865000	6620000	6204000	5645500	5287000	4954000	4783000	4680000
upp CL	4037000	6175000	7836000	8587000	8349000	7781000	7061000	6568000	6008000	5750000	5612000
<b>F30%SPR</b>											
Deterministic run	4037000	5357000	7770000	7934000	7387000	6459000	5639000	5115000	4764000	4603000	4484000
low CL	4037000	4909000	6078000	6230000	5929000	5488000	5014000	4672000	4391000	4258000	4123000
Median boots	4037000	5430500	7834000	7982000	7469500	6805000	6068500	5623500	5211500	5015000	4881500
upp CL	4037000	6175000	10040000	10470000	9792000	8696000	7684000	7031000	6364000	6072000	5853000
<b>F40%SPR</b>											
Deterministic run	4037000	5357000	5720000	6143000	5998000	5464000	4914000	4544000	4281000	4173000	4089000
low CL	4037000	4909000	4405000	4733000	4715000	4583000	4311000	4131000	3961000	3895000	3806000
Median boots	4037000	5430500	5683500	6099500	5965500	5677000	5235500	4983000	4700500	4589500	4476000
upp CL	4037000	6175000	7277000	7997000	7828000	7261000	6630000	6212000	5751000	5536000	5359000
<b>F 65%SPR30</b>											
Deterministic run	4037000	5357000	5222000	5676000	5605000	5157000	4672000	4340000	4101000	4007000	3932000
low CL	4037000	4909000	4259000	4593000	4573000	4509000	4234000	4072000	3909000	3825000	3748000
Median boots	4037000	5430500	5512500	5948500	5868500	5579000	5165500	4914500	4638500	4526500	4406000
upp CL	4037000	6175000	6932000	7563000	7474000	7008000	6475000	6079000	5606000	5434000	5276000
<b>F 75%SPR30</b>											
Deterministic run	4037000	5357000	5970000	6373000	6187000	5609000	5026000	4636000	4361000	4246000	4157000
low CL	4037000	4909000	4871000	5179000	5060000	4920000	4555000	4332000	4129000	4026000	3921000
Median boots	4037000	5430500	6300000	6677500	6476500	6062500	5546000	5218000	4901000	4754500	4608500
upp CL	4037000	6175000	7920000	8493000	8247000	7627000	6939000	6462000	5907000	5713000	5511000
<b>F 85%SPR30</b>											
Deterministic run	4037000	5357000	6703000	7029000	6709000	5994000	5314000	4868000	4560000	4425000	4324000
low CL	4037000	4909000	5469000	5727000	5502000	5258000	4824000	4527000	4304000	4175000	4047000
Median boots	4037000	5430500	7074000	7354500	7022500	6471000	5850000	5458500	5085500	4907000	4768500
upp CL	4037000	6175000	8896000	9361000	8942000	8137000	7308000	6767000	6139000	5927000	5692000

## Conversion to pound units

## Atlantic stock unit

	2006*	2007**	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Yield landings lbs</b>											
<b>F30%SPR</b>											
Deterministic run	9,852,460	9,277,053	9,453,423	9,248,393	9,153,594	9,131,548	8,860,379	8,787,627	8,794,241	8,736,921	8,703,851
low CL	9,852,460	8,423,864	7,206,912	7,321,553	7,484,695	7,716,180	7,689,725	7,696,339	7,740,431	7,665,474	7,612,563
Median	9,852,460	9,732,308	9,755,456	9,760,968	9,816,084	9,806,163	9,526,176	9,284,769	9,230,756	9,170,129	9,163,515
upp CL	9,852,460	11,455,221	13,064,595	12,850,747	12,703,037	12,370,139	11,788,119	11,437,584	11,400,105	11,342,785	11,239,168
<b>F40%SPR</b>											
Deterministic run	9,852,460	9,277,053	6,668,984	6,955,585	7,239,982	7,522,173	7,475,876	7,548,629	7,665,474	7,672,088	7,685,315
low CL	9,852,460	8,423,864	5,075,042	5,498,330	5,912,799	6,375,769	6,497,024	6,600,641	6,754,965	6,777,011	6,765,988
Median	9,852,460	9,732,308	6,894,958	7,328,167	7,772,398	8,125,138	8,093,171	8,058,999	8,071,124	8,044,669	8,079,943
upp CL	9,852,460	11,455,221	9,270,439	9,706,955	10,079,536	10,304,408	10,000,170	9,905,371	9,896,552	9,925,212	9,812,777
<b>Fcurrent</b>											
Deterministic run	9,852,460	9,277,053	9,504,129	9,288,076	9,184,459	9,155,799	8,880,221	8,805,264	8,809,673	8,750,148	8,717,079
low CL	9,852,460	8,423,864	8,395,204	8,132,854	7,938,847	8,024,827	7,879,322	7,824,207	7,797,751	7,674,292	7,691,929
Median	9,852,460	9,732,308	10,265,827	10,069,615	10,006,783	9,979,226	9,660,658	9,379,568	9,339,885	9,282,565	9,226,347
upp CL	9,852,460	11,455,221	12,564,146	12,714,060	12,703,037	12,557,532	11,863,076	11,607,340	11,605,135	11,428,765	11,331,762
<b>F 85%SPR30</b>											
Deterministic run	9,852,460	9,277,053	8,170,333	8,236,471	8,344,498	8,476,775	8,313,633	8,309,224	8,368,749	8,337,884	8,326,861
low CL	9,852,460	8,423,864	5,853,274	6,261,129	6,525,684	6,871,810	6,986,450	7,076,840	7,147,387	7,109,909	7,083,453
Median	9,852,460	9,732,308	7,898,062	8,261,824	8,571,574	8,819,594	8,724,795	8,581,495	8,569,369	8,550,630	8,564,960
upp CL	9,852,460	11,455,221	10,672,580	10,961,385	11,003,273	11,115,709	10,716,672	10,564,553	10,529,279	10,529,279	10,385,979
<b>F 75%SPR30</b>											
Deterministic run	9,852,460	9,277,053	7,290,688	7,497,923	7,718,385	7,943,256	7,850,662	7,892,550	7,985,144	7,978,530	7,980,735
low CL	9,852,460	8,423,864	5,218,342	5,690,132	6,005,393	6,404,430	6,587,413	6,688,826	6,772,602	6,777,011	6,770,397
Median	9,852,460	9,732,308	7,045,975	7,505,639	7,912,392	8,234,267	8,234,267	8,132,854	8,161,514	8,139,468	8,160,412
upp CL	9,852,460	11,455,221	9,517,357	9,956,077	10,176,539	10,416,843	10,103,787	9,993,556	10,046,467	9,995,760	9,925,212
<b>F 66%SPR30</b>											
Deterministic run	9,852,460	9,277,053	6,391,202	6,706,463	7,017,315	7,319,348	7,295,097	7,378,873	7,506,741	7,519,969	7,537,606
low CL	9,852,460	8,423,864	4,576,797	5,088,270	5,443,214	5,873,115	6,071,532	6,219,241	6,325,063	6,360,337	6,369,156
Median	9,852,460	9,732,308	6,170,740	6,699,849	7,174,945	7,562,959	7,625,791	7,600,437	7,662,167	7,631,302	7,668,781
upp CL	9,852,460	11,455,221	8,335,679	8,893,449	9,246,189	9,583,496	9,380,671	9,312,327	9,407,126	9,402,717	9,356,420

## Gulf of Mexico stock unit

	2006*	2007**	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Yield landings lbs</b>											
<b>Fcurrent</b>											
Deterministic run	8,900,063	11,810,165	14,393,983	15,156,783	14,526,260	13,022,708	11,576,475	10,621,873	9,958,282	9,671,681	9,455,628
low CL	8,900,063	10,822,494	12,308,410	12,546,509	12,094,561	11,331,762	10,414,639	9,896,552	9,301,304	8,959,588	8,756,762
Median boots	8,900,063	11,972,205	14,408,313	15,134,736	14,594,604	13,677,481	12,446,199	11,655,841	10,921,702	10,544,711	10,317,635
upp CL	8,900,063	13,613,546	17,275,425	18,931,097	18,406,397	17,154,171	15,566,842	14,479,963	13,245,374	12,676,582	12,372,344
<b>F30%SPR</b>											
Deterministic run	8,900,063	11,810,165	17,129,920	17,491,478	16,285,549	14,239,659	12,431,869	11,276,646	10,502,824	10,147,879	9,885,529
low CL	8,900,063	10,822,494	13,399,698	13,734,801	13,071,209	12,098,971	11,053,979	10,299,998	9,680,499	9,387,284	9,089,660
Median boots	8,900,063	11,972,205	17,271,016	17,597,300	16,467,431	15,002,459	13,378,754	12,397,697	11,489,392	11,056,184	10,761,867
upp CL	8,900,063	13,613,546	22,134,414	23,082,402	21,587,668	19,171,401	16,940,322	15,500,704	14,030,220	13,386,470	12,903,658
<b>F40%SPR</b>											
Deterministic run	8,900,063	11,810,165	12,610,443	13,542,999	13,223,328	12,046,060	10,833,517	10,017,807	9,437,991	9,199,891	9,014,703
low CL	8,900,063	10,822,494	9,711,364	10,434,480	10,394,797	10,103,787	9,504,129	9,107,297	8,732,511	8,587,006	8,390,795
Median boots	8,900,063	11,972,205	12,529,974	13,447,097	13,151,678	12,515,644	11,542,303	10,985,636	10,362,830	10,118,117	9,867,892
upp CL	8,900,063	13,613,546	16,043,041	17,630,369	17,257,788	16,007,767	14,616,650	13,695,118	12,678,786	12,204,792	11,814,574
<b>F 65%SPR30</b>											
Deterministic run	8,900,063	11,810,165	11,512,541	12,513,440	12,356,911	11,369,240	10,299,998	9,568,063	9,041,159	8,833,924	8,668,577
low CL	8,900,063	10,822,494	9,389,489	10,125,833	10,081,741	9,940,645	9,334,373	8,977,225	8,617,871	8,432,683	8,262,927
Median boots	8,900,063	11,972,205	12,152,984	13,114,199	12,937,830	12,299,591	11,387,980	10,834,619	10,226,143	9,979,226	9,713,569
upp CL	8,900,063	13,613,546	15,282,446	16,673,563	16,477,352	15,449,997	14,274,933	13,401,903	12,359,116	11,979,921	11,631,580
<b>F 75%SPR30</b>											
Deterministic run	8,900,063	11,810,165	13,161,599	14,050,062	13,640,002	12,365,730	11,080,435	10,220,632	9,614,361	9,360,829	9,164,617
low CL	8,900,063	10,822,494	10,738,718	11,417,742	11,155,392	10,846,745	10,042,057	9,550,426	9,102,888	8,875,812	8,644,326
Median boots	8,900,063	11,972,205	13,889,124	14,721,370	14,278,240	13,365,526	12,226,839	11,503,722	10,804,857	10,481,880	10,160,005
upp CL	8,900,063	13,613,546	17,460,613	18,723,862	18,181,525	16,814,659	15,297,878	14,246,273	13,022,708	12,595,011	12,149,677
<b>F 85%SPR30</b>											
Deterministic run	8,900,063	11,810,165	14,777,587	15,496,294	14,790,815	13,214,510	11,715,366	10,732,104	10,053,080	9,755,456	9,532,789
low CL	8,900,063	10,822,494	12,057,083	12,625,875	12,129,835	11,591,907	10,635,101	9,980,328	9,488,697	9,204,301	8,922,109
Median boots	8,900,063	11,972,205	15,595,502	16,213,899	15,481,964	14,266,115	12,897,044	12,033,934	11,211,610	10,818,085	10,512,744
upp CL	8,900,063	13,613,546	19,612,325	20,637,475	19,713,738	17,939,017	16,111,384	14,918,683	13,534,180	13,066,800	12,548,714

