

Alternative analysis of yellowtail flounder movement and mortality with a Poisson likelihood objective function and estimated reporting rate.

**Movement-mortality model for yellowtail flounder tagging observations**

Parameters	starting value	basis	Assumed Parameters	basis	Calculated Parameters	Annual Rates	
Fg	0.3723	0.2856 TRAC 2007	M	0.0500 M=0.2	Uc	0.243 Fc 1.147	
Fc	0.2867	0.2278 GARM2005	B	0.13 estimated	Ug	0.304 Fg 1.489	
Fs	0.0080	0.1925 GARM2005			Us	0.008 Fs 0.032	
Acg	0.0162	0.0003 historical average			Sc	0.714 Acg 0.063	
Acs	0.1376	0.0009 historical average			Sg	0.656 Acs 0.447	
Agc	0.0041	0.0000 historical average			Ss	0.944 Agc 0.016	
Ags	0.0315	0.0024 historical average			Acc	0.846 Ags 0.120	
Asc	0.0072	0.0008 historical average			Agg	0.964 Asc 0.029	
Asg	0.0138	0.0020 historical average			Ass	0.979 Asg 0.054	
(quarterly rates)						Acc	0.490
						Agg	0.863
						Ass	0.917

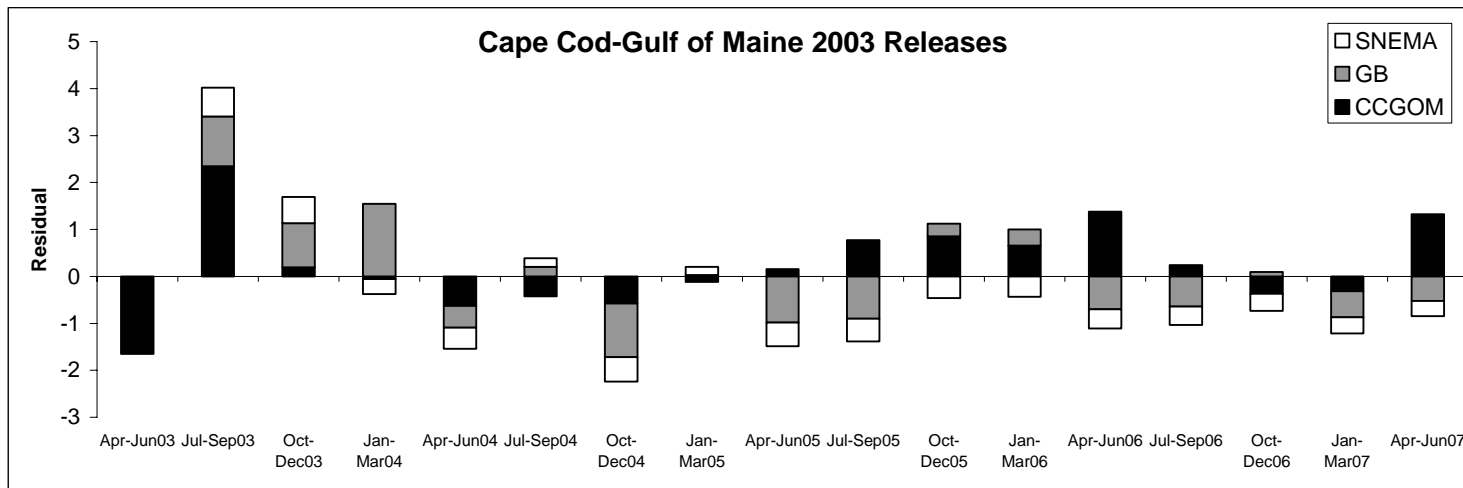
Release Events

Stock	Year	Tags	Recaptures	%recapture	LnL
CCGOM	2003	4334	524	12.1%	-1194
GB	2003	4163	557	13.4%	-1437
SNEMA	2003	815	3	0.4%	21
CCGOM	2004	2751	155	5.6%	-224
GB	2004	14532	1082	7.4%	-1787
SNEMA	2004	1719	75	4.4%	25
CCGOM	2005	1105	106	9.6%	-145
GB	2005	4590	495	10.8%	-795
SNEMA	2005	547	3	0.5%	11
CCGOM	2006	2942	282	9.6%	-803
GB	2006	4751	264	5.6%	-755
SNEMA	2006	1791	12	0.7%	15
Sum		44040	3558	8.1%	-7069

Release Event: Cape Cod-Gulf of Maine 2003

-LnL -1193.8  
RMS -23.408

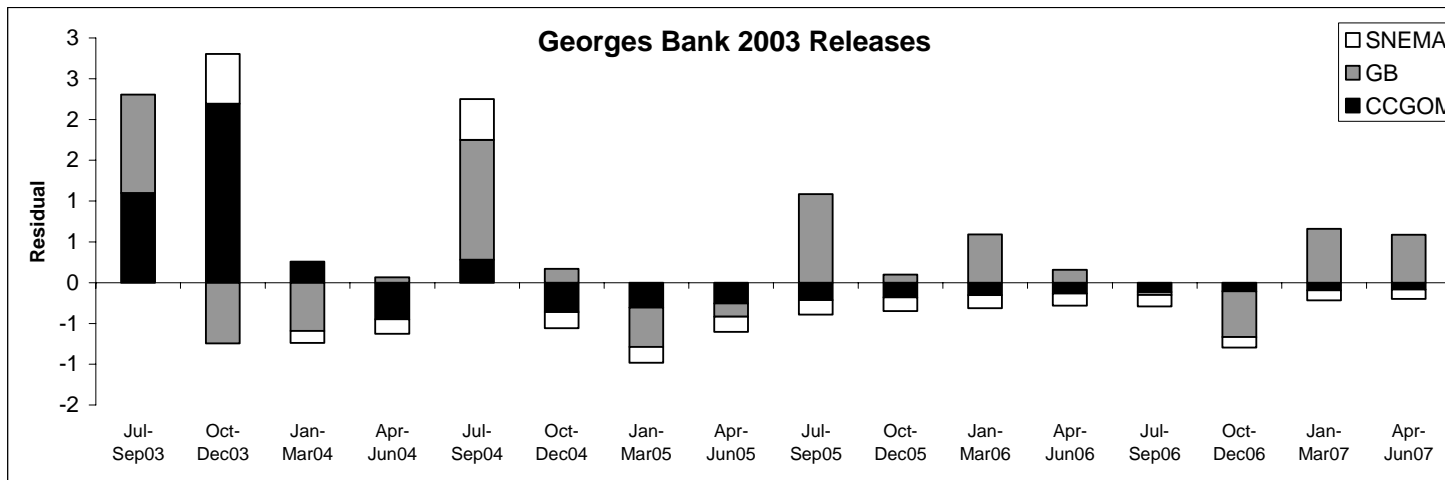
Month	Releases	Mean Date	Recaptures				Predicted Tags at Large				Predicted Recaptures				Residuals				-LnL	
			CCGOM	GB	SNEMA	Unknown	Total	CCGOM	GB	SNEMA	Total	CCGOM	GB	SNEMA	Total	CCGOM	GB	SNEMA		Total
Apr-Jun03	878	84	4	0	0	0	4	854	0	0	854	25	0	0	25	-2	0	0	-2	12.104
Jul-Sep03	2459	32	210	3	1	3	217	623	10	84	717	19	0	0	20	2	1	1	4	-601.9 3.2705 2.5691
Oct-Dec03	997	49	95	3	1	13	112	2537	15	139	2690	78	1	0	79	0	1	1	2	-336 2.291 2.1195
Jan-Mar04			66	11	0	1	78	2261	40	378	2679	70	2	0	72	0	2	0	1	-210.4 -3.323 0.3748
Apr-Jun04			22	1	0	2	25	1361	57	572	1990	42	2	1	45	-1	0	0	-2	-40.21 1.4033 0.5674
Jul-Sep04			16	3	1	1	21	811	59	663	1533	25	2	1	28	0	0	0	0	-26.48 -0.191 1.0766
Oct-Dec04			8	0	0	5	13	487	55	694	1236	15	2	1	18	-1	-1	-1	-2	-6.647 2.1337 0.688
Jan-Mar05			7	2	1	0	10	260	50	690	999	8	2	1	11	0	0	0	0	-6.553 0.6156 1.0638
Apr-Jun05			6	0	0	0	6	162	43	664	869	5	2	1	7	0	-1	-1	-1	-4.656 1.6718 0.6582
Jul-Sep05			8	0	0	2	10	102	38	630	770	3	1	1	5	1	-1	0	-1	-6.049 1.4619 0.6247
Oct-Dec05			5	2	0	0	7	51	33	593	676	2	1	1	3	1	0	0	1	-0.665 0.7831 0.5879
Jan-Mar06			3	2	0	0	5	35	29	553	617	1	1	1	3	1	0	0	1	0.8655 0.8837 0.5486
Apr-Jun06			6	0	0	0	6	25	26	515	566	1	1	1	2	1	-1	0	0	2.3639 1.0087 0.5108
Jul-Sep06			1	0	0	0	1	19	24	479	521	1	1	0	2	0	-1	0	-1	1.1293 0.907 0.4748
Oct-Dec06			0	1	0	0	1	15	21	444	480	0	1	0	2	0	0	0	-1	0.4497 1.0181 0.4409
Jan-Mar07			0	0	0	1	1	12	19	412	444	0	1	0	2	0	-1	0	-1	0.3673 0.7488 0.4092
Apr-Jun07			3	0	0	0	3	2	18	383	403	0	1	0	1	1	-1	0	0	0.6855 0.3795
unknown			1				3	4												
<b>Total</b>	<b>4334</b>		<b>461</b>	<b>28</b>	<b>4</b>	<b>31</b>	<b>524</b>					<b>sum</b>	<b>296</b>	<b>21</b>	<b>8</b>	<b>324</b>	<b>4</b>	<b>-1</b>	<b>-3</b>	<b>-1</b>



Release Event: Georges Bank 2003

-LnL  
RMS -1437  
-29.937

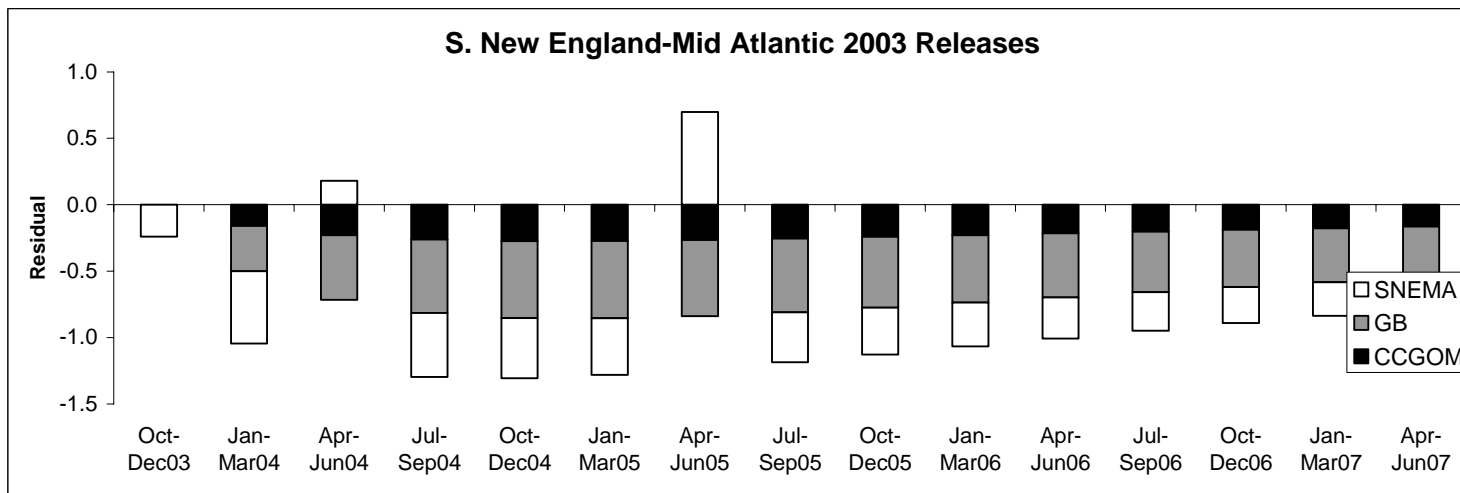
Month	Releases	Date	Recaptures				Predicted Tags at Large				Predicted Recaptures				Residuals				-LnL	
			CCGOM	GB	SNEMA	Unknown	Total	CCGOM	GB	SNEMA	Total	CCGOM	GB	SNEMA	Total	CCGOM	GB	SNEMA		Total
Jul-Sep03	4163	13	2	93	0	0	95	0	4053	0	4053	0	27	0	27	1	1	0	2	-280
Oct-Dec03			11	70	1	3	85	11	3858	84	3953	0	149	0	149	2	-1	1	2	-201 2.571
Jan-Mar04			1	51	0	3	55	18	2417	158	2593	1	93	0	94	0	-1	0	0	1.15 -138 0.157
Apr-Jun04			0	62	0	2	64	18	1506	198	1723	1	58	0	59	0	0	0	-1	0.567 -194 0.196
Jul-Sep04			1	161	1	4	167	17	939	216	1171	1	36	0	37	0	1	0	2	1.182 -542 1.756
Oct-Dec04			0	26	0	1	27	14	565	220	800	0	22	0	22	0	0	0	0	0.433 -58.3 0.218
Jan-Mar05			0	8	0	1	9	12	353	217	581	0	14	0	14	0	0	0	-1	0.356 -7.29 0.215
Apr-Jun05			0	7	0	0	7	9	218	208	436	0	8	0	9	0	0	0	-1	0.29 -6.5 0.207
Jul-Sep05			0	18	0	0	18	8	141	198	346	0	5	0	6	0	1	0	1	0.238 -25 0.196
Oct-Dec05			0	4	0	0	4	6	92	187	284	0	4	0	4	0	0	0	0	0.197 -1.51 0.185
Jan-Mar06			0	5	0	0	5	5	60	175	241	0	2	0	3	0	1	0	0	0.166 -1.9 0.173
Apr-Jun06			0	2	0	0	2	5	40	163	208	0	2	0	2	0	0	0	0	0.142 0.67 0.162
Jul-Sep06			0	1	0	0	1	4	28	152	184	0	1	0	1	0	0	0	0	0.124 1.002 0.151
Oct-Dec06			0	0	0	0	0	4	20	141	165	0	1	0	1	0	-1	0	-1	0.109 0.755 0.14
Jan-Mar07			0	2	0	1	3	3	14	131	149	0	1	0	1	0	1	0	0	0.098 1.746 0.13
Apr-Jun07			0	1	0	0	1	3	3	122	128	0	0	0	0	0	1	0	0	0.088 2.308 0.121
unknown							14	14												
<b>Total</b>	<b>4163</b>		<b>15</b>	<b>511</b>	<b>2</b>	<b>29</b>	<b>557</b>					<b>4</b>	<b>422</b>	<b>3</b>	<b>429</b>	<b>1</b>	<b>4</b>	<b>-1</b>	<b>4</b>	



Release Event: Southern New England-Mid Atlantic 2003

-LnL 20.9994  
RMS 0.46665

Month	Releases	Mean Date	Recaptures				Predicted Tags at Large				Predicted Recaptures				Residuals				-LnL		
			CCGOM	GB	SNEMA	Unknown	Total	CCGOM	GB	SNEMA	Total	CCGOM	GB	SNEMA	Total	CCGOM	GB	SNEMA		Total	
Oct-Dec03	815	30	0	0	0	0	0	0	815	815	0	0	0	0	0	0	0	0	0	0.2711	
Jan-Mar04			0	0	0	0	0	0	6	11	730	746	0	0	1	1	0	0	-1	-1	0.1719 0.4087 0.7237
Apr-Jun04			0	0	1	0	1	8	16	675	699	0	1	1	2	0	0	0	-1	0.2587 0.6267 1.0708	
Jul-Sep04			0	0	0	0	0	10	19	624	653	0	1	1	2	0	-1	0	-1	0.3 0.7382 0.6194	
Oct-Dec04			0	0	0	0	0	10	20	578	609	0	1	1	2	0	-1	0	-1	0.3146 0.7841 0.5736	
Jan-Mar05			0	0	0	0	0	10	21	536	566	0	1	1	2	0	-1	0	-1	0.3138 0.7902 0.5313	
Apr-Jun05			0	0	2	0	2	10	20	496	526	0	1	0	2	0	-1	1	0	0.3043 0.7726 1.91	
Jul-Sep05			0	0	0	0	0	9	19	460	488	0	1	0	1	0	-1	0	-1	0.2902 0.7416 0.456	
Oct-Dec05			0	0	0	0	0	9	18	426	453	0	1	0	1	0	-1	0	-1	0.2739 0.7035 0.4226	
Jan-Mar06			0	0	0	0	0	8	17	395	420	0	1	0	1	0	-1	0	-1	0.2569 0.6623 0.3916	
Apr-Jun06			0	0	0	0	0	8	16	366	390	0	1	0	1	0	0	0	-1	0.24 0.6203 0.3629	
Jul-Sep06			0	0	0	0	0	7	15	339	361	0	1	0	1	0	0	0	-1	0.2235 0.5791 0.3363	
Oct-Dec06			0	0	0	0	0	7	14	314	335	0	1	0	1	0	0	0	-1	0.2078 0.5393 0.3117	
Jan-Mar07			0	0	0	0	0	6	13	291	310	0	1	0	1	0	0	0	-1	0.1931 0.5015 0.2889	
Apr-Jun07			0	0	0	0	0	6	12	270	288	0	0	0	1	0	0	0	-1	0.1792 0.4658 0.2677	
unknown																					
<b>Total</b>	<b>815</b>		<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>3</b>						<b>4</b>	<b>9</b>	<b>7</b>	<b>19</b>	<b>-3</b>	<b>-7</b>	<b>-4</b>	<b>-14</b>	



Release Event: Cape Cod-Gulf of Maine 2004

-LnL -223.56  
RMS -5.7324

Month	Releases	Mean Date	Recaptures				Predicted Tags at Large				Predicted Recaptures				Residuals				-LnL				
			CCGOM	GB	SNEMA	Unknown	Total	CCGOM	GB	SNEMA	Total	CCGOM	GB	SNEMA	Total	CCGOM	GB	SNEMA		Total			
Apr-Jun04	1712	76	7	0	0	0	7	1712	0	0	0	1712	46	0	0	0	46	-2	0	0	-2	18.84	
Jul-Sep04	1039	14	46	0	0	1	47	1290	20	168	1478	40	1	0	0	41	0	-1	0	-1	-129.7	0.765	0.167
Oct-Dec04			26	0	0	1	27	1757	30	283	2070	54	1	0	0	56	-1	-1	0	-2	-49.56	1.145	0.28
Jan-Mar05			25	0	1	0	26	1056	43	434	1533	33	2	0	0	35	0	-1	0	-1	-54.5	1.65	1.273
Apr-Jun05			11	0	0	0	11	641	45	506	1192	20	2	1	0	22	-1	-1	0	-2	-13.04	1.733	0.502
Jul-Sep05			9	0	0	2	11	391	42	531	965	12	2	1	0	14	0	-1	0	-2	-10.34	1.636	0.527
Oct-Dec05			6	0	0	0	6	224	38	530	792	7	1	1	0	9	0	-1	0	-1	-4.685	1.475	0.526
Jan-Mar06			6	0	0	0	6	139	34	512	685	4	1	1	0	6	0	-1	0	-1	-4.453	1.298	0.508
Apr-Jun06			2	0	0	0	2	88	30	488	605	3	1	0	0	4	0	-1	0	-1	0.716	1.14	0.484
Jul-Sep06			4	0	0	1	5	56	26	460	542	2	1	0	0	3	1	-1	0	0	-0.48	1.004	0.456
Oct-Dec06			1	0	0	0	1	29	23	431	483	1	1	0	0	2	0	-1	0	-1	1.004	0.891	0.427
Jan-Mar07			3	0	0	0	3	21	21	401	443	1	1	0	0	2	1	-1	0	0	1.97	0.792	0.398
Apr-Jun07			0	0	0	0	0	15	18	373	407	0	1	0	0	2	0	-1	0	-1	0.475	0.711	0.37
unknown			1				2	3															
<b>Total</b>	<b>2751</b>		<b>147</b>	<b>0</b>	<b>1</b>	<b>7</b>	<b>155</b>					<b>222</b>	<b>14</b>	<b>5</b>	<b>241</b>	<b>-2</b>	<b>-9</b>	<b>-4</b>	<b>-15</b>				

