

Appendix 2. Age-specific bottom trawl survey abundance indices for Gulf of Maine cod.

Table 1. Standardized [for both door and gear changes] stratified mean number per tow at age and standardized stratified mean weight (kg) per tow of Atlantic cod in NEFSC offshore spring research vessel bottom trawl surveys in the Gulf of Maine, 1968-2005.

Table 2. Standardized [for both door and gear changes] stratified mean number per tow at age and standardized stratified mean weight (kg) per tow of Atlantic cod in NEFSC offshore autumn research vessel bottom trawl surveys in the Gulf of Maine, 1963-2004.

Table 3. Stratified mean catch per tow in numbers and weight (kg) of Atlantic cod in State of Massachusetts inshore spring and autumn bottom trawl surveys in territorial waters adjacent to the Georges Bank area (Mass. Regions 1-3) and in the Gulf of Maine (Mass. Regions 4-5), 1978 - 2005.

Appendix 2: Table 1. Standardized [for both door and gear changes] stratified mean number per tow at age and standardized stratified mean weight (kg) per tow of Atlantic cod in NEFSC offshore spring research vessel bottom trawl surveys in the Gulf of Maine (Strata 26-30 and 36-40), 1968-2005. [a,b]

Year [c,d,e]	Age Group																	Totals			Standardized Mean Wt./tow (kg)
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14+	0+	4+	5+	6+		
1968	0.128	0.613	1.234	1.407	0.846	0.538	0.207	0.129	0.111	0.059	0.165	-	-	-	-	5.438	2.056	1.211	0.673	18.20	
1969	0.000	0.000	0.036	0.307	0.880	0.807	0.633	0.256	0.144	0.089	0.101	-	-	-	-	3.253	2.909	2.030	1.223	13.19	
1970	0.000	0.159	0.124	0.053	0.091	0.271	0.465	0.611	0.094	0.059	0.098	0.100	0.042	0.012	0.012	2.191	1.855	1.764	1.494	11.08	
1971	0.000	0.026	0.151	0.105	0.286	0.048	0.084	0.300	0.206	0.154	0.058	0.013	0.000	0.000	0.000	1.429	1.148	0.862	0.814	7.00	
1972	0.000	0.371	0.135	0.521	0.195	0.181	0.044	0.124	0.093	0.229	0.056	0.056	0.034	0.000	0.017	2.057	1.030	0.835	0.653	8.03	
1973	0.000	0.035	4.250	0.890	0.632	0.348	0.194	0.096	0.221	0.261	0.198	0.075	0.106	0.132	0.088	7.525	2.350	1.718	1.370	18.81	
1974	0.000	0.475	1.031	1.503	0.172	0.235	0.075	0.028	0.057	0.303	0.045	0.043	0.081	0.051	2.902	2.902	0.648	0.413	7.42		
1975	0.006	0.096	0.686	0.131	1.105	0.269	0.079	0.000	0.006	0.018	0.028	0.026	0.062	0.000	0.000	2.512	1.593	0.488	0.219	6.04	
1976	0.000	0.051	0.265	1.104	0.137	0.902	0.090	0.095	0.027	0.000	0.011	0.000	0.074	0.027	0.000	2.782	1.362	1.225	0.323	7.56	
1977	0.000	0.025	0.297	0.553	1.925	1.111	0.831	0.011	0.083	0.000	0.000	0.000	0.000	0.038	0.038	3.872	2.998	1.073	0.962	8.54	
1978	0.000	0.048	0.110	0.308	0.351	0.744	0.095	0.252	0.013	0.107	0.000	0.022	0.000	0.000	0.000	2.050	1.584	1.233	0.488	7.70	
1979	0.044	0.484	1.630	0.219	0.449	0.299	0.587	0.102	0.112	0.013	0.031	0.000	0.000	0.025	0.025	3.993	1.617	1.168	0.869	8.36	
1980	0.070	0.037	0.423	0.492	0.138	0.304	0.317	0.014	0.000	0.122	0.014	0.000	0.000	0.000	0.000	4.832	2.272	0.930	0.600	10.65	
1981	0.000	1.075	0.644	0.841	1.342	0.331	0.264	0.116	0.121	0.100	0.000	0.000	0.000	0.000	0.000	3.763	1.907	1.251	0.264	8.62	
1982	0.014	0.359	1.007	0.476	0.655	0.988	0.087	0.112	0.000	0.026	0.039	0.000	0.000	0.000	0.000	3.071	1.322	0.857	0.453	10.96	
1983	0.013	0.632	0.949	0.997	0.465	0.404	0.212	0.068	0.016	0.071	0.018	0.008	0.030	0.030	0.030	3.667	1.596	0.359	0.147	6.14	
1984	0.000	0.151	1.312	1.023	0.823	0.212	0.047	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.517	1.596	0.933	0.272	7.65	
1985	0.000	0.029	0.231	0.662	0.663	0.662	0.103	0.091	0.052	0.000	0.026	0.000	0.000	0.000	0.000	2.957	1.419	0.182	0.090	3.48	
1986	0.000	0.537	0.248	0.754	0.237	0.091	0.035	0.038	0.000	0.000	0.000	0.000	0.018	0.000	0.015	1.957	0.419	0.182	0.090	1.98	
1987	0.000	0.030	0.460	0.199	0.231	0.074	0.000	0.066	0.008	0.000	0.000	0.000	0.000	0.000	0.000	3.127	0.635	0.417	0.163	3.60	
1988	0.029	0.717	0.923	0.823	0.218	0.254	0.092	0.065	0.000	0.007	0.000	0.000	0.000	0.000	0.000	2.112	0.768	0.168	0.077	2.42	
1989	0.000	0.017	0.605	0.723	0.600	0.091	0.063	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.362	0.789	0.152	0.050	3.08	
1990	0.000	0.000	0.208	0.068	0.637	0.102	0.032	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.393	2.054	0.337	0.038	2.89	
1991	0.000	0.038	0.068	0.234	1.717	0.299	0.020	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.435	1.917	1.635	0.307	8.63	
1992	0.000	0.050	0.226	0.242	0.282	1.328	0.226	0.069	0.000	0.012	0.000	0.000	0.000	0.000	0.000	2.507	1.010	0.676	0.585	5.88	
1993	0.000	0.201	0.497	0.799	0.334	0.091	0.484	0.055	0.023	0.000	0.000	0.023	0.000	0.000	0.000	1.271	0.553	0.338	0.244	2.43	
1994	0.000	0.015	0.316	0.388	0.215	0.094	0.049	0.127	0.027	0.022	0.018	0.000	0.000	0.000	0.000	2.465	1.793	0.463	0.059	5.43	
1995	0.000	0.050	0.179	1.116	0.372	0.145	0.028	0.000	0.011	0.000	0.000	0.000	0.000	0.028	0.000	1.930	0.585	0.213	0.068	2.43	
1996	0.000	0.057	0.022	0.593	1.331	0.403	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.192	1.502	1.238	0.362	5.62	
1997	0.000	0.159	0.132	0.399	0.264	0.876	0.242	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.301	1.139	0.622	0.481	4.18	
1998	0.000	0.166	0.344	0.713	0.345	0.517	0.142	0.023	0.037	0.000	0.000	0.000	0.000	0.011	0.000	2.011	0.708	0.733	0.418	5.09	
1999	0.000	1.184	0.725	0.439	0.457	0.107	0.101	0.024	0.022	0.000	0.000	0.000	0.000	0.000	0.000	3.083	0.710	0.253	0.146	3.21	
2000	0.000	0.029	0.323	0.716	0.497	0.354	0.064	0.098	0.055	0.000	0.011	0.000	0.000	0.000	0.000	2.146	1.078	0.581	0.227	6.22	
2001	0.000	0.340	0.045	0.524	1.601	0.614	0.362	0.164	0.057	0.016	0.000	0.000	0.000	0.000	0.000	3.724	2.814	1.213	0.598	10.93	
2002	0.000	0.069	0.831	0.063	0.708	1.089	0.395	0.321	0.103	0.073	0.027	0.000	0.000	0.000	0.000	3.677	2.715	2.007	0.918	9.50	
2003	0.000	0.136	0.045	0.221	0.118	0.191	0.232	0.014	0.014	0.010	0.000	0.000	0.000	0.000	0.000	0.981	0.579	0.461	0.270	2.41	
2004	0.000	0.020	0.726	0.101	0.608	0.015	0.145	0.130	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1.765	0.917	0.309	0.294	2.70	
2005	0.000	0.020	0.726	0.101	0.608	0.015	0.145	0.130	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1.765	0.917	0.309	0.294	2.70	

[a] Indices from 1970-2001 have been recalculated and may differ slightly from those reported previously (Mayo et al. 2002) due to slight modifications to the age-length keys and a better accounting of vessel effects in 1979 and 1987.

[b] Spring catch per tow at age indices for 1968-1969 were obtained by applying combined 1970-1981 age-length keys to stratified mean catch per tow at length distributions from each survey. Calculations were carried out only to age 10+.

[c] Spring surveys during 1973-1981 were accomplished with a '41 Yankee' trawl; in all other years, spring surveys were accomplished with a '36 Yankee' trawl. No adjustments have been made to the catch per tow data for these differences.

[d] During 1963-1984, BMV oval doors were used in the spring and autumn surveys; since 1985, Portuguese polyvalent doors have been used in both surveys. Adjustments have been made to the 1963-1984 catch per tow data to standardize these data to polyvalent door equivalents. Conversion coefficients of 1.56 (numbers) and 1.62 (weight) were used in this standardization (NESFC 1991).

[e] In the Gulf of Maine, spring surveys during 1980-1982, 1989-1991, 1994 and 2003, were conducted aboard R/V DELAWARE II; in all other years, the surveys were conducted aboard R/V ALBATROSS IV except in 1979 and 1987 when both vessels were deployed on portions of the survey. Adjustments have been made to the R/V DELAWARE II catch per tow data to standardize these to R/V ALBATROSS IV equivalents. Conversion coefficients of 0.79 (numbers) and 0.67 (weight) were used in this standardization (NEFSC 1991).

Appendix 2: Table 2. Standardized [for both door and gear changes] stratified mean number per tow at age and standardized stratified mean weight (kg) per tow of Atlantic cod in NEFSC offshore autumn research vessel bottom trawl surveys in the Gulf of Maine (Strata 26-30 and 36-40), 1963-2004. [a,b]

Year [c,d]	Age Group																			Totals					Standardized Mean Wt./Cov (Kg)
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14+	0+	3+	4+	5+						
1963	0.050	0.649	1.349	1.253	0.849	0.579	0.537	0.300	0.183	0.095	0.075	-	-	-	-	5.917	3.869	2.616	1.767	17.95					
1964	0.000	0.092	0.122	0.417	0.856	0.493	0.783	0.373	0.237	0.114	0.101	-	-	-	-	4.003	3.789	3.318	2.462	22.80					
1965	0.002	0.850	0.880	0.824	0.750	0.496	0.374	0.170	0.080	0.044	0.025	-	-	-	-	4.494	2.763	1.939	1.189	12.01					
1966	0.170	0.204	0.640	0.697	0.718	0.558	0.441	0.192	0.078	0.048	0.036	-	-	-	-	3.783	2.769	2.072	1.354	12.92					
1967	0.012	0.129	0.215	0.574	0.671	0.384	0.268	0.162	0.070	0.041	0.034	-	-	-	-	2.562	2.204	1.630	0.959	9.23					
1968	0.012	0.036	0.179	0.719	1.256	0.719	0.627	0.261	0.156	0.072	0.095	-	-	-	-	4.387	4.159	3.440	2.184	19.44					
1969	0.016	0.059	0.123	0.354	0.630	0.552	0.466	0.220	0.145	0.129	0.062	-	-	-	-	2.758	2.560	2.206	1.576	15.37					
1970	0.802	0.883	0.260	0.538	0.329	0.486	0.425	0.811	0.132	0.094	0.036	0.037	0.073	0.000	0.000	4.905	2.960	2.422	2.093	16.44					
1971	1.319	0.179	0.276	0.219	0.578	0.478	0.455	0.236	0.298	0.163	0.066	0.034	0.061	0.000	0.000	4.361	2.588	2.368	1.790	16.53					
1972	0.031	5.578	1.215	1.528	0.233	0.090	0.140	0.070	0.138	0.262	0.000	0.000	0.000	0.016	0.000	9.301	2.477	0.949	0.716	12.99					
1973	0.638	0.329	2.170	0.139	0.507	0.213	0.077	0.027	0.051	0.183	0.102	0.000	0.000	0.016	0.000	4.452	1.315	1.176	0.669	8.76					
1974	0.283	1.134	0.266	1.876	0.167	0.274	0.051	0.046	0.033	0.033	0.033	0.098	0.000	0.000	0.033	4.328	2.646	0.770	0.603	8.96					
1975	0.047	0.177	3.045	0.138	2.333	0.259	0.109	0.017	0.006	0.000	0.000	0.006	0.000	0.000	0.000	6.143	2.874	2.736	0.403	8.62					
1976	0.000	0.230	0.221	0.633	0.077	0.773	0.052	0.132	0.000	0.000	0.031	0.000	0.000	0.000	0.000	2.148	1.697	1.064	0.988	6.74					
1977	0.000	0.042	0.416	0.465	1.157	0.114	0.629	0.044	0.090	0.022	0.032	0.000	0.044	0.019	0.000	3.073	2.615	2.150	0.994	10.20					
1978	0.248	1.373	0.378	1.135	0.658	1.426	0.109	0.310	0.005	0.083	0.007	0.013	0.000	0.028	0.000	5.773	3.773	2.638	1.980	12.90					
1979	0.002	0.381	0.588	0.145	0.708	0.337	0.688	0.044	0.181	0.000	0.053	0.000	0.000	0.000	0.018	3.142	2.172	2.027	1.319	13.93					
1980	0.027	1.321	2.520	1.780	0.492	0.194	0.360	0.207	0.036	0.025	0.000	0.036	0.000	0.014	0.022	7.034	3.165	1.385	0.894	14.20					
1981	0.010	0.618	0.419	0.539	0.405	0.201	0.076	0.029	0.000	0.000	0.043	0.000	0.000	0.000	0.000	2.349	1.302	0.358	0.358	7.53					
1982	0.000	0.843	3.353	2.275	1.089	0.825	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.769	3.573	1.298	0.209	15.92					
1983	0.000	0.317	0.916	0.828	0.197	0.227	0.210	0.000	0.000	0.000	0.027	0.028	0.000	0.000	0.000	2.786	1.553	0.726	0.529	8.42					
1984	0.022	0.432	0.426	0.631	0.387	0.214	0.163	0.079	0.000	0.030	0.000	0.000	0.030	0.035	0.000	2.449	1.569	0.938	0.551	8.74					
1985	0.121	0.526	0.957	0.609	0.248	0.182	0.075	0.000	0.034	0.021	0.010	0.000	0.010	0.000	0.029	2.821	1.218	0.609	0.361	8.26					
1986	0.000	0.392	0.401	0.657	0.342	0.073	0.041	0.000	0.011	0.034	0.000	0.000	0.000	0.000	0.000	1.950	1.157	0.501	0.159	4.72					
1987	0.128	0.578	1.380	0.592	0.243	0.075	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.996	2.960	0.318	0.075	3.39					
1988	0.000	1.938	2.313	0.990	0.443	0.099	0.065	0.033	0.011	0.011	0.000	0.000	0.000	0.000	0.000	5.903	1.652	0.662	0.219	6.62					
1989	0.000	0.150	2.407	1.502	0.293	0.161	0.033	0.000	0.000	0.000	0.009	0.000	0.000	0.000	0.000	4.553	1.997	0.495	0.202	4.54					
1990	0.006	0.045	0.187	1.829	0.598	0.259	0.052	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.986	2.748	0.919	0.321	4.91					
1991	0.009	0.144	0.139	0.223	0.633	0.081	0.000	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.252	0.960	0.737	0.104	2.78					
1992	0.059	0.291	0.446	0.140	0.036	0.350	0.104	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.433	0.638	0.498	0.462	2.45					
1993	0.043	0.198	0.568	0.360	0.034	0.000	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.232	0.424	0.064	0.030	1.00					
1994	0.032	0.207	0.883	0.826	0.085	0.051	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.130	1.008	0.182	0.096	2.74					
1995	0.008	0.068	0.285	1.228	0.325	0.082	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.008	1.647	0.419	0.093	3.67					
1996	0.029	0.124	0.383	0.188	0.542	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.327	0.792	0.604	0.062	2.35					
1997	0.000	0.297	0.086	0.177	0.173	0.140	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.872	0.490	0.313	0.140	1.87					
1998	0.050	0.097	0.320	0.115	0.192	0.039	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.843	0.376	0.262	0.069	1.50					
1999	0.025	0.431	0.367	0.586	0.243	0.132	0.016	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.807	0.984	0.398	0.155	3.51					
2000	0.008	0.533	0.984	0.394	0.507	0.134	0.010	0.000	0.011	0.023	0.000	0.000	0.000	0.000	0.000	2.604	1.079	0.686	0.178	4.65					
2001	0.018	0.034	0.141	0.752	0.469	0.337	0.122	0.084	0.000	0.023	0.000	0.000	0.000	0.000	0.000	1.980	1.788	1.035	0.566	7.33					
2002	0.000	0.269	0.081	0.364	2.797	1.096	0.627	0.051	0.043	0.000	0.000	0.000	0.000	0.000	0.000	5.328	4.979	4.615	1.818	24.66					
2003	0.542	0.455	0.198	0.185	0.529	0.450	0.073	0.077	0.000	0.011	0.000	0.011	0.000	0.000	0.000	2.529	1.335	1.150	0.622	5.99					
2004	1.380	0.651	0.168	0.581	0.231	0.253	0.168	0.068	0.011	0.010	0.011	0.000	0.000	0.000	0.000	3.533	1.334	0.753	0.522	4.90					

[a] Indices from 1970-2001 have been recalculated and may differ slightly from those reported previously (Mayo et al. 2002) due to slight modifications to the age-length keys and a better accounting of vessel effects in 1979.

[b] Autumn catch per tow at age indices for 1963-1969 were obtained by applying combined 1970-1981 age-length keys to stratified mean catch per tow at length distributions from each survey. Calculations were carried out only to age 10+.

[c] During 1963-1984, EMV oval doors were used in the spring and autumn surveys; since 1985, Portuguese polyvalent doors have been used in both surveys. Adjustments have been made to the 1963-1984 catch per tow data to standardize these data to polyvalent door equivalents.

[d] In the Gulf of Maine, autumn surveys during 1977-1978, 1980, 1989-1991 and 1993 were conducted aboard R/V DELAWARE II; in all other years, the surveys were conducted aboard R/V ALBATROSS IV except in 1979 when both vessels were deployed on portions of the survey. Adjustments have been made to the R/V DELAWARE II catch per tow data to standardize these to R/V ALBATROSS IV equivalents. Conversion coefficients of 0.79 (numbers) and 0.67 (weight) were used in this standardization (NEFSC 1991).

Appendix 2: Table 3. Stratified mean catch per tow in numbers and weight (kg) of Atlantic cod in State of Massachusetts inshore spring and autumn bottom trawl surveys in territorial waters adjacent to the Gulf of Maine (Mass. Regions 4-5), 1978 - 2005. [a]

Year	Age Group											Totals	Stratified Mean Weight/tow (kg)			
	0	1	2	3	4	5	6	7	8	9	10+					
Spring																
1978	21.965	12.784	4.162	4.572	0.872	1.028	0.000	0.000	0.023	0.000	0.000	0.000	23.441	10.657	6.495	12.16
1979	56.393	36.630	2.581	1.533	4.659	1.995	0.183	0.000	0.000	0.000	0.000	0.000	104.043	47.650	8.439	20.53
1980	8.156	50.311	12.679	0.971	0.745	0.737	0.080	0.000	0.000	0.000	0.000	0.000	73.918	65.762	17.71	17.71
1981	19.753	24.794	23.884	3.122	1.279	0.041	0.146	0.022	0.000	0.000	0.000	0.000	73.063	53.310	4.632	21.79
1982	1.489	16.235	7.060	3.418	1.147	0.232	0.011	0.057	0.045	0.000	0.000	0.000	29.694	28.205	11.970	4.910
1983	0.453	27.703	18.572	5.331	0.501	1.221	0.142	0.022	0.000	0.000	0.000	0.000	53.945	53.482	25.789	7.217
1984	0.206	2.896	5.408	2.271	0.865	0.138	0.162	0.000	0.000	0.000	0.000	0.000	11.946	11.740	8.844	8.63
1985	0.793	2.711	3.822	2.794	0.692	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.812	10.019	7.308	6.42
1986	0.957	19.960	3.222	0.887	0.426	0.090	0.019	0.000	0.000	0.000	0.000	0.000	25.561	24.604	4.644	7.77
1987	0.659	8.590	6.997	2.268	0.257	0.147	0.048	0.000	0.000	0.000	0.000	0.000	19.053	18.394	9.804	9.59
1988	1.595	11.841	11.356	2.511	1.370	0.000	0.039	0.000	0.000	0.000	0.000	0.000	28.712	27.117	15.276	9.66
1989	0.157	20.679	25.260	6.580	0.458	0.106	0.124	0.000	0.000	0.000	0.000	0.000	53.364	53.207	32.528	18.26
1990	4.10	6.33	6.89	17.77	2.64	0.18	0.05	0.02	0.000	0.000	0.000	0.000	37.980	33.88	27.55	20.66
1991	0.32	5.88	3.56	2.54	5.03	0.36	0.000	0.000	0.000	0.000	0.000	0.000	17.69	17.37	11.49	7.93
1992	1.36	6.42	6.35	3.58	0.65	1.37	0.12	0.04	0.00	0.00	0.00	0.00	19.88	18.53	12.11	5.76
1993	69.03	3.40	7.76	3.60	1.45	0.05	0.30	0.00	0.00	0.00	0.00	0.00	85.59	16.56	13.16	5.40
1994	3.90	4.45	5.67	2.46	0.52	0.23	0.03	0.06	0.00	0.00	0.00	0.00	17.35	13.45	9.00	4.83
1995	9.84	6.41	1.36	3.89	1.20	0.09	0.00	0.00	0.00	0.00	0.00	0.00	22.79	12.95	6.54	4.49
1996	6.39	1.37	0.65	1.15	2.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	11.96	5.57	4.20	4.06
1997	10.40	3.66	1.25	1.05	0.22	0.50	0.03	0.00	0.00	0.00	0.00	0.00	28.30	6.69	3.03	2.97
1998	20.72	3.15	1.80	0.99	1.06	0.08	0.46	0.04	0.00	0.00	0.00	0.00	17.09	7.58	4.43	1.78
1999	116.22	14.36	3.57	3.46	1.20	1.08	0.06	0.22	0.04	0.00	0.00	0.00	140.08	23.84	9.48	5.91
2000	1.83	27.99	7.12	2.85	2.60	0.78	0.77	0.06	0.13	0.00	0.00	0.00	44.16	42.33	14.34	7.22
2001	19.00	0.08	2.78	4.81	3.63	1.86	0.41	0.16	0.00	0.00	0.00	0.00	32.74	13.74	13.66	10.88
2002	0.82	16.71	0.441	1.642	2.379	0.615	0.178	0.286	0.178	0.000	0.000	0.000	24.11	23.29	6.58	6.14
2003	801.27	6.247	9.338	0.366	1.714	1.638	0.365	0.20	0.018	0.000	0.000	0.000	821.16	19.89	13.64	4.30
2004	100.62	12.177	2.049	3.350	0.608	1.310	0.891	0.056	0.097	0.000	0.000	0.000	121.22	20.60	8.42	6.37
2005	145.59	3.236	9.363	0.675	2.575	0.230	1.313	0.474	0.077	0.000	0.000	0.000	163.53	17.94	14.70	5.34
Autumn																
1978	151.533	2.082	0.000	0.120	0.140	0.318	0.000	0.080	0.000	0.000	0.000	0.000	154.273	2.740	0.658	3.02
1979	4.933	3.430	0.042	0.000	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.431	3.498	0.068	0.99
1980	5.680	8.834	0.052	0.000	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.616	8.936	0.102	0.50
1981	2.018	5.652	7.290	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.689	13.671	8.019	0.729
1982	4.667	2.346	1.005	0.060	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.128	3.461	1.115	1.35
1983	1.308	0.651	0.100	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.072	0.764	0.113	0.18
1984	12.296	0.344	0.022	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12.675	0.379	0.013	0.18
1985	2.478	1.150	0.833	0.000	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.279	0.447	0.028	0.10
1986	389.584	2.386	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.528	2.050	0.067	0.55
1987	4.571	20.490	0.679	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	391.990	2.406	0.020	0.45
1988	2.971	2.700	0.350	0.210	0.185	0.000	0.000	0.000	0.000	0.000	0.000	0.000	25.740	21.169	0.679	1.57
1989	9.37	9.13	1.74	0.31	0.06	0.03	0.000	0.000	0.000	0.000	0.000	0.000	6.416	3.445	0.745	1.27
1990	4.65	4.20	0.81	0.03	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	20.638	11.27	2.14	0.40
1991	24.30	2.01	0.11	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	9.74	5.09	0.89	0.80
1992	49.92	3.32	0.61	0.33	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	26.48	2.18	0.17	0.06
1993	33.49	14.13	6.37	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.21	4.29	0.97	1.97
1994	2.56	0.64	0.54	0.79	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.26	20.77	6.64	4.47
1995	7.59	0.15	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.55	1.99	1.35	0.81
1996	2.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.19	0.03	0.09
1997	2.61	1.04	0.62	0.08	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04	0.02	0.00	0.02
1998	6.34	0.98	0.28	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.46	1.85	0.19	0.56
1999	0.04	0.54	0.27	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.65	1.31	0.33	0.43
2000	44.52	0.06	0.30	0.15	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	0.87	0.33	0.06
2001	0.99	2.50	0.30	0.55	0.77	0.91	0.08	0.00	0.00	0.00	0.00	0.00	45.22	0.70	0.64	1.00
2002	112.79	3.66	0.33	0.12	0.47	0.15	0.02	0.00	0.00	0.00	0.00	0.00	6.17	5.18	2.68	8.66
2003	39.22	14.38	1.50	2.03	0.33	0.77	0.38	0.01	0.00	0.00	0.00	0.00	117.54	4.75	1.09	3.13
2004													58.62	19.40	5.02	8.77

[a] Massachusetts sampling strata 25-36.