

9 Icelandic cod in Va

Table 9.1. Icelandic cod in Division Va. Estimated catch in numbers (millions) by year and age in millions of fish in 1955-2019.

year	3	4	5	6	7	8	9	10	11	12	13	14
1955	4.790	25.164	46.566	28.287	10.541	5.224	2.467	25.182	2.101	1.202	1.668	0.665
1956	6.709	17.265	31.030	27.793	14.389	4.261	3.429	2.128	16.820	1.552	1.522	1.545
1957	13.240	21.278	17.515	24.569	17.634	12.296	3.568	2.169	1.171	6.822	0.512	1.089
1958	25.237	30.742	14.298	10.859	15.997	15.822	12.021	2.003	2.125	0.771	3.508	0.723
1959	18.394	37.650	23.901	7.682	5.883	8.791	13.003	7.683	0.914	0.990	0.218	1.287
1960	14.830	28.642	27.968	14.120	8.387	6.089	6.393	11.600	3.526	0.692	0.183	0.510
1961	16.507	21.808	19.488	15.034	7.900	6.925	3.969	3.211	6.756	1.202	0.089	0.425
1962	13.514	28.526	18.924	14.650	12.045	4.276	8.809	2.664	1.883	2.988	0.405	0.324
1963	18.507	28.466	19.664	11.314	15.682	7.704	2.724	6.508	1.657	1.030	1.372	0.246
1964	19.287	28.845	18.712	11.620	7.936	18.032	5.040	1.437	2.670	0.655	0.370	1.025
1965	21.658	29.586	24.783	11.706	9.334	6.394	11.122	1.477	0.823	0.489	0.118	0.489
1966	17.910	30.649	20.006	13.872	5.942	7.586	2.320	5.583	0.407	0.363	0.299	0.311
1967	25.945	27.941	24.322	11.320	8.751	2.595	5.490	1.392	1.998	0.109	0.030	0.106
1968	11.933	47.311	22.344	16.277	15.590	7.059	1.571	2.506	0.512	0.659	0.047	0.098
1969	11.149	23.925	45.445	17.397	12.559	14.811	1.590	0.475	0.340	0.064	0.024	0.021
1970	9.876	47.210	23.607	25.451	15.196	12.261	14.469	0.567	0.207	0.147	0.035	0.050
1971	13.060	35.856	45.577	21.135	17.340	10.924	6.001	4.210	0.237	0.069	0.038	0.020
1972	8.973	29.574	30.918	22.855	11.097	9.784	10.538	3.938	1.242	0.119	0.031	0.001
1973	36.538	25.542	27.391	17.045	12.721	3.685	4.718	5.809	1.134	0.282	0.007	0.001
1974	14.846	61.826	21.824	14.413	8.974	6.216	1.647	2.530	1.765	0.334	0.062	0.028
1975	29.301	29.489	44.138	12.088	9.628	3.691	2.051	0.752	0.891	0.416	0.060	0.046
1976	23.578	39.790	21.092	24.395	5.803	5.343	1.297	0.633	0.205	0.155	0.065	0.029
1977	2.614	42.659	32.465	12.162	13.017	2.809	1.773	0.421	0.086	0.024	0.006	0.002
1978	5.999	16.287	43.931	17.626	8.729	4.119	0.978	0.348	0.119	0.048	0.015	0.027
1979	7.186	28.427	13.772	34.443	14.130	4.426	1.432	0.350	0.168	0.043	0.024	0.004
1980	4.348	28.530	32.500	15.119	27.090	7.847	2.228	0.646	0.246	0.099	0.025	0.004

1981	2.118	13.297	39.195	23.247	12.710	26.455	4.804	1.677	0.582	0.228	0.053	0.068
1982	3.285	20.812	24.462	28.351	14.012	7.666	11.517	1.912	0.327	0.094	0.043	0.011
1983	3.554	10.910	24.305	18.944	17.382	8.381	2.054	2.733	0.514	0.215	0.064	0.037
1984	6.750	31.553	19.420	15.326	8.082	7.336	2.680	0.512	0.538	0.195	0.090	0.036
1985	6.457	24.552	35.392	18.267	8.711	4.201	2.264	1.063	0.217	0.233	0.102	0.038
1986	20.642	20.330	26.644	30.839	11.413	4.441	1.771	0.805	0.392	0.103	0.076	0.044
1987	11.002	62.130	27.192	15.127	15.695	4.159	1.463	0.592	0.253	0.142	0.046	0.058
1988	6.713	39.323	55.895	18.663	6.399	5.877	1.345	0.455	0.305	0.157	0.114	0.025
1989	2.605	27.983	50.059	31.455	6.010	1.915	0.881	0.225	0.107	0.086	0.038	0.005
1990	5.785	12.313	27.179	44.534	17.037	2.573	0.609	0.322	0.118	0.050	0.015	0.020
1991	8.554	25.131	15.491	21.514	25.038	6.364	0.903	0.243	0.125	0.063	0.011	0.012
1992	12.217	21.708	26.524	11.413	10.073	8.304	2.006	0.257	0.046	0.032	0.009	0.008
1993	20.500	33.078	15.195	13.281	3.583	2.785	2.707	1.181	0.180	0.034	0.011	0.013
1994	6.160	24.142	19.666	6.968	4.393	1.257	0.599	0.508	0.283	0.049	0.018	0.006
1995	10.770	9.103	16.829	13.066	4.115	1.596	0.313	0.184	0.156	0.141	0.029	0.008
1996	5.356	14.886	7.372	12.307	9.429	2.157	0.837	0.208	0.076	0.065	0.055	0.005
1997	1.722	16.442	17.298	6.711	7.379	5.958	1.147	0.493	0.126	0.028	0.037	0.021
1998	3.458	7.707	25.394	20.167	5.893	3.856	2.951	0.500	0.196	0.055	0.033	0.013
1999	2.525	19.554	15.226	24.622	12.966	2.795	1.489	0.748	0.140	0.046	0.010	0.005
2000	10.493	6.581	29.080	11.227	11.390	5.714	1.104	0.567	0.314	0.074	0.022	0.006
2001	13.553	26.000	9.111	20.213	5.850	3.760	2.028	0.508	0.199	0.137	0.013	0.031
2002	6.019	17.776	24.030	7.160	9.424	2.451	1.555	0.738	0.150	0.058	0.041	0.004
2003	5.490	16.313	22.045	16.628	4.840	4.933	1.201	0.507	0.211	0.046	0.026	0.033
2004	1.784	17.960	24.043	17.901	10.166	2.880	1.978	0.499	0.162	0.087	0.019	0.008
2005	5.271	5.302	26.183	16.922	8.543	4.890	1.292	0.790	0.216	0.096	0.037	0.005
2006	3.446	13.108	8.834	22.063	10.540	4.683	2.164	0.471	0.240	0.040	0.016	0.010
2007	2.054	11.639	15.937	8.599	9.894	5.680	2.281	1.139	0.332	0.088	0.067	0.006
2008	3.104	5.126	12.849	11.641	5.153	4.708	2.139	0.880	0.280	0.067	0.043	0.004
2009	3.458	7.926	9.626	17.895	10.503	3.888	2.295	0.742	0.315	0.089	0.022	0.012
2010	3.511	7.730	9.591	8.448	10.922	5.546	1.566	0.924	0.299	0.144	0.063	0.017

2011	4.001	7.845	10.576	10.820	6.287	6.292	2.429	0.680	0.419	0.134	0.040	0.016
2012	4.056	11.249	10.814	9.560	8.918	5.009	3.213	1.152	0.292	0.227	0.081	0.026
2013	5.778	12.224	15.347	11.414	7.594	5.792	2.571	1.832	0.653	0.209	0.146	0.036
2014	4.630	8.365	14.898	13.262	8.426	4.930	2.816	1.395	0.964	0.376	0.127	0.107
2015	5.229	13.361	10.350	13.897	9.409	5.616	2.441	1.552	0.953	0.407	0.125	0.036
2016	2.667	11.179	11.886	10.989	12.746	7.345	3.232	1.590	0.847	0.537	0.184	0.056
2017	5.174	8.033	13.630	13.590	7.632	7.459	3.904	2.005	0.761	0.517	0.251	0.143
2018	4.905	12.805	8.403	14.206	11.364	7.124	4.418	2.047	0.852	0.506	0.176	0.105
2019	2.916	8.467	13.461	9.095	8.974	7.801	4.182	3.973	2.033	0.748	0.354	0.184

Table 9.2. Icelandic cod in Division Va. Estimated mean weight at age in the catch (kg) in period the 1955-2019. The weights for age groups 3 to 9 in 2020 are based on predictions from the 2020 spring survey measurements. The weights in the catches are used to calculate the reference biomass (B_{4+}).

year	3	4	5	6	7	8	9	10	11	12	13	14
1955	0.827	1.307	2.157	3.617	4.638	5.657	6.635	6.168	8.746	8.829	10.086	14.584
1956	1.080	1.600	2.190	3.280	4.650	5.630	6.180	6.970	6.830	9.290	10.965	12.954
1957	1.140	1.710	2.520	3.200	4.560	5.960	7.170	7.260	8.300	8.290	10.350	13.174
1958	1.210	1.810	3.120	4.510	5.000	5.940	6.640	8.290	8.510	8.840	9.360	13.097
1959	1.110	1.950	2.930	4.520	5.520	6.170	6.610	7.130	8.510	8.670	9.980	11.276
1960	1.060	1.720	2.920	4.640	5.660	6.550	6.910	7.140	7.970	10.240	10.100	12.871
1961	1.020	1.670	2.700	4.330	5.530	6.310	6.930	7.310	7.500	8.510	9.840	14.550
1962	0.990	1.610	2.610	3.900	5.720	6.660	6.750	7.060	7.540	8.280	10.900	12.826
1963	1.250	1.650	2.640	3.800	5.110	6.920	7.840	7.610	8.230	9.100	9.920	11.553
1964	1.210	1.750	2.640	4.020	5.450	6.460	8.000	9.940	9.210	10.940	12.670	15.900
1965	1.020	1.530	2.570	4.090	5.410	6.400	7.120	8.600	12.310	10.460	10.190	17.220
1966	1.170	1.680	2.590	4.180	5.730	6.900	7.830	8.580	9.090	14.230	14.090	17.924
1967	1.120	1.820	2.660	4.067	5.560	7.790	7.840	8.430	9.090	10.090	14.240	16.412
1968	1.170	1.590	2.680	3.930	5.040	5.910	7.510	8.480	10.750	11.580	14.640	16.011
1969	1.100	1.810	2.480	3.770	5.040	5.860	7.000	8.350	8.720	10.080	11.430	13.144
1970	0.990	1.450	2.440	3.770	4.860	5.590	6.260	8.370	10.490	12.310	14.590	21.777
1971	1.090	1.570	2.310	2.980	4.930	5.150	5.580	6.300	8.530	11.240	14.740	17.130
1972	0.980	1.460	2.210	3.250	4.330	5.610	6.040	6.100	6.870	8.950	11.720	16.000

1973	1.030	1.420	2.470	3.600	4.900	6.110	6.670	6.750	7.430	7.950	10.170	17.000
1974	1.050	1.710	2.430	3.820	5.240	6.660	7.150	7.760	8.190	9.780	12.380	14.700
1975	1.100	1.770	2.780	3.760	5.450	6.690	7.570	8.580	8.810	9.780	10.090	11.000
1976	1.350	1.780	2.650	4.100	5.070	6.730	8.250	9.610	11.540	11.430	14.060	16.180
1977	1.259	1.911	2.856	4.069	5.777	6.636	7.685	9.730	11.703	14.394	17.456	24.116
1978	1.289	1.833	2.929	3.955	5.726	6.806	9.041	10.865	13.068	11.982	19.062	21.284
1979	1.408	1.956	2.642	3.999	5.548	6.754	8.299	9.312	13.130	13.418	13.540	20.072
1980	1.392	1.862	2.733	3.768	5.259	6.981	8.037	10.731	12.301	17.281	14.893	19.069
1981	1.180	1.651	2.260	3.293	4.483	5.821	7.739	9.422	11.374	12.784	12.514	19.069
1982	1.006	1.550	2.246	3.104	4.258	5.386	6.682	9.141	11.963	14.226	17.287	16.590
1983	1.095	1.599	2.275	3.021	4.096	5.481	7.049	8.128	11.009	13.972	15.882	18.498
1984	1.288	1.725	2.596	3.581	4.371	5.798	7.456	9.851	11.052	14.338	15.273	16.660
1985	1.407	1.971	2.576	3.650	4.976	6.372	8.207	10.320	12.197	14.683	16.175	19.050
1986	1.459	1.961	2.844	3.593	4.635	6.155	7.503	9.084	10.356	15.283	14.540	15.017
1987	1.316	1.956	2.686	3.894	4.716	6.257	7.368	9.243	10.697	10.622	15.894	12.592
1988	1.438	1.805	2.576	3.519	4.930	6.001	7.144	8.822	9.977	11.732	14.156	13.042
1989	1.186	1.813	2.590	3.915	5.210	6.892	8.035	9.831	11.986	10.003	12.611	16.045
1990	1.290	1.704	2.383	3.034	4.624	6.521	8.888	10.592	10.993	14.570	15.732	17.290
1991	1.309	1.899	2.475	3.159	3.792	5.680	7.242	9.804	9.754	14.344	14.172	20.200
1992	1.289	1.768	2.469	3.292	4.394	5.582	6.830	8.127	12.679	13.410	15.715	11.267
1993	1.392	1.887	2.772	3.762	4.930	6.054	7.450	8.641	10.901	12.517	14.742	16.874
1994	1.443	2.063	2.562	3.659	5.117	6.262	7.719	8.896	10.847	12.874	14.742	17.470
1995	1.348	1.959	2.920	3.625	5.176	6.416	7.916	10.273	11.022	11.407	13.098	15.182
1996	1.457	1.930	3.132	4.141	4.922	6.009	7.406	9.772	10.539	13.503	13.689	16.194
1997	1.484	1.877	2.878	4.028	5.402	6.386	7.344	8.537	10.797	11.533	10.428	12.788
1998	1.230	1.750	2.458	3.559	5.213	7.737	7.837	9.304	10.759	14.903	16.651	18.666
1999	1.241	1.716	2.426	3.443	4.720	6.352	8.730	9.946	11.088	12.535	14.995	15.151
2000	1.308	1.782	2.330	3.252	4.690	5.894	7.809	9.203	10.240	11.172	13.172	17.442
2001	1.484	2.017	2.629	3.362	4.555	6.187	7.124	8.445	9.311	9.566	10.242	9.503
2002	1.309	1.947	2.664	3.638	4.551	5.927	7.083	8.100	9.276	11.660	11.221	14.029

2003	1.350	1.866	2.459	3.391	4.380	4.756	6.141	7.138	9.580	10.260	11.479	10.720
2004	1.139	1.754	2.413	3.373	4.288	5.185	5.741	7.376	10.038	10.322	12.428	11.452
2005	1.196	1.735	2.421	3.395	4.292	5.059	6.233	6.124	7.964	10.075	12.776	13.719
2006	1.088	1.622	2.205	3.052	4.265	4.978	5.287	6.028	8.455	11.154	12.608	15.381
2007	1.063	1.595	2.179	2.791	3.861	5.159	5.871	6.405	7.182	9.506	10.406	10.532
2008	1.098	1.598	2.364	3.140	3.990	5.264	6.483	7.367	7.784	10.505	11.621	18.092
2009	1.096	1.666	2.206	3.187	4.059	5.024	6.649	8.354	9.529	11.193	11.761	14.918
2010	1.100	1.824	2.355	3.213	4.481	5.463	6.740	8.026	8.969	10.419	11.648	12.205
2011	1.109	1.660	2.512	3.443	4.404	5.783	6.526	7.828	8.806	9.662	12.941	11.649
2012	1.180	1.625	2.442	3.744	4.707	5.925	7.369	7.988	9.111	10.720	12.042	11.608
2013	1.132	1.743	2.451	3.612	4.936	6.125	7.367	8.137	9.173	10.121	10.421	12.702
2014	1.118	1.741	2.522	3.518	4.677	6.158	7.486	8.586	8.967	10.518	10.286	12.354
2015	1.196	1.643	2.663	3.599	4.643	5.919	7.589	8.600	9.686	11.208	11.328	10.392
2016	1.101	1.791	2.510	3.749	4.659	5.967	7.188	8.535	10.130	10.719	11.421	13.899
2017	1.011	1.760	2.501	3.459	4.789	5.929	7.190	8.467	9.496	11.025	11.535	12.853
2018	1.181	1.797	2.808	3.768	4.591	6.126	7.102	8.723	9.471	10.127	10.422	11.617
2019	1.155	1.662	2.480	3.773	4.783	5.504	6.604	8.095	8.842	10.596	11.687	12.003
2020	1.263	1.821	2.349	3.346	4.784	5.792	6.850	8.574	8.842	10.596	11.687	12.003

Table 9.3. Icelandic cod in Division Va. Estimated survey weight (kg) at age in the spring survey (SMB).

year	1	2	3	4	5	6	7	8	9
1985	0.014	0.137	0.388	1.124	1.743	2.601	3.264	4.757	6.009
1986	0.015	0.159	0.619	1.225	2.264	3.006	4.362	5.595	7.186
1987	0.014	0.117	0.469	1.202	1.763	3.004	4.229	6.301	6.876
1988	0.011	0.122	0.496	1.082	1.977	3.119	3.622	4.482	8.046
1989	0.022	0.151	0.547	1.159	1.973	3.081	4.404	6.212	6.942
1990	0.019	0.135	0.462	1.042	1.832	2.643	3.870	5.871	7.746
1991	0.018	0.147	0.555	1.170	1.859	2.636	3.344	5.675	7.316
1992	0.024	0.134	0.500	1.017	1.863	2.619	3.766	5.101	7.355
1993	0.012	0.173	0.576	1.170	1.954	3.043	4.048	5.410	6.080
1994	0.013	0.174	0.686	1.417	2.055	3.230	4.193	6.229	8.156

1995	0.010	0.133	0.606	1.380	2.297	3.009	4.466	5.350	8.035
1996	0.011	0.155	0.551	1.352	2.084	3.322	4.044	5.257	7.460
1997	0.018	0.139	0.546	1.194	2.170	3.211	4.858	5.501	6.463
1998	0.015	0.154	0.482	1.193	2.041	3.017	4.249	5.417	6.333
1999	0.014	0.140	0.578	1.070	1.849	2.869	3.826	4.993	5.657
2000	0.016	0.124	0.486	1.195	1.817	2.771	4.068	5.345	8.472
2001	0.017	0.149	0.530	1.184	1.845	2.625	3.781	5.491	6.472
2002	0.013	0.131	0.510	1.206	1.998	2.920	3.784	5.791	6.321
2003	0.016	0.131	0.466	1.179	1.919	2.786	4.136	4.672	6.246
2004	0.021	0.142	0.480	1.073	1.896	2.791	3.413	4.866	5.069
2005	0.011	0.118	0.440	1.033	1.771	2.669	3.680	4.365	7.207
2006	0.013	0.106	0.412	0.980	1.710	2.624	4.039	4.709	5.587
2007	0.014	0.100	0.412	0.970	1.665	2.382	3.694	5.052	6.052
2008	0.011	0.121	0.376	0.943	1.811	2.612	3.586	4.919	6.301
2009	0.012	0.111	0.411	0.847	1.616	2.646	3.690	4.698	5.836
2010	0.013	0.098	0.386	1.010	1.706	2.593	4.052	4.931	6.235
2011	0.012	0.102	0.392	1.128	2.127	3.003	4.258	5.866	6.638
2012	0.012	0.143	0.467	1.144	1.936	3.210	4.281	5.812	7.897
2013	0.014	0.110	0.495	1.053	1.790	3.033	4.781	6.372	8.078
2014	0.011	0.114	0.359	1.076	1.713	2.641	3.992	6.138	8.025
2015	0.013	0.150	0.417	0.897	2.062	3.029	4.405	6.058	8.606
2016	0.010	0.119	0.478	1.007	1.583	3.164	4.000	5.510	7.192
2017	0.014	0.091	0.418	1.223	1.938	2.726	5.160	6.445	7.570
2018	0.020	0.133	0.383	0.974	2.141	3.167	3.978	6.540	7.593
2019	0.010	0.094	0.468	0.908	1.796	3.407	4.389	5.319	7.434
2020	0.012	0.130	0.390	1.069	1.710	2.922	4.669	5.894	7.180

Table 9.4. Icelandic cod in Division Va. Estimated weight at age in the spawning stock (kg) in period the 1955-2020. These weights are used to calculate the spawning stock biomass (SSB).

year	3	4	5	6	7	8	9	10	11	12	13	14
1955	0.645	1.019	1.833	3.183	4.128	5.657	6.635	6.168	8.746	8.829	10.086	14.584
1956	0.645	1.248	1.862	2.886	4.138	5.630	6.180	6.970	6.830	9.290	10.965	12.954
1957	0.645	1.334	2.142	2.816	4.058	5.960	7.170	7.260	8.300	8.290	10.350	13.174
1958	0.645	1.412	2.652	3.969	4.450	5.940	6.640	8.290	8.510	8.840	9.360	13.097
1959	0.645	1.521	2.490	3.978	4.913	6.170	6.610	7.130	8.510	8.670	9.980	11.276
1960	0.645	1.342	2.482	4.083	5.037	6.550	6.910	7.140	7.970	10.240	10.100	12.871
1961	0.645	1.303	2.295	3.810	4.922	6.310	6.930	7.310	0.750	8.510	9.840	14.550
1962	0.645	1.256	2.218	3.432	5.091	6.660	6.750	7.060	7.540	8.280	10.900	12.826
1963	0.645	1.287	2.244	3.344	4.548	6.920	7.840	7.610	8.230	9.100	9.920	11.553
1964	0.645	1.365	2.244	3.538	4.850	6.460	8.000	9.940	9.210	10.940	12.670	15.900
1965	0.645	1.193	2.184	3.599	4.815	6.400	7.120	8.600	12.310	10.460	10.190	17.220
1966	0.645	1.310	2.202	3.678	5.100	6.900	7.830	8.580	9.090	14.230	14.090	17.924
1967	0.645	1.420	2.261	3.579	4.948	7.790	7.840	8.430	9.090	10.090	14.240	16.412
1968	0.645	1.240	2.278	3.458	4.486	5.910	7.510	8.480	10.750	11.580	14.640	16.011
1969	0.645	1.412	2.108	3.318	4.486	5.860	7.000	8.350	8.720	10.080	11.430	13.144
1970	0.645	1.131	2.074	3.318	4.325	5.590	6.260	8.370	10.490	12.310	14.590	21.777
1971	0.645	1.225	1.964	2.622	4.388	5.150	5.580	6.300	8.530	11.240	14.740	17.130
1972	0.645	1.139	1.878	2.860	3.854	5.610	6.040	6.100	6.870	8.950	11.720	16.000
1973	0.645	1.108	2.100	3.168	4.361	6.110	6.670	6.750	7.430	7.950	10.170	17.000
1974	0.645	1.334	2.066	3.362	4.664	6.660	7.150	7.760	8.190	9.780	12.380	14.700
1975	0.645	1.381	2.363	3.309	4.850	6.690	7.570	8.580	8.810	9.780	10.090	11.000
1976	0.645	1.388	2.252	3.608	4.512	6.730	8.250	9.610	11.540	11.430	14.060	16.180
1977	0.645	1.491	2.428	3.581	5.142	6.636	7.685	9.730	11.703	14.394	17.456	24.116
1978	0.645	1.430	2.490	3.480	5.096	6.806	9.041	10.865	13.068	11.982	19.062	21.284
1979	0.645	1.526	2.246	3.519	4.938	6.754	8.299	9.312	13.130	13.418	13.540	20.072
1980	0.645	1.452	2.323	3.316	4.681	6.981	8.037	10.731	12.301	17.281	14.893	19.069
1981	0.645	1.288	1.921	2.898	3.990	5.821	7.739	9.422	11.374	12.784	12.514	19.069
1982	0.645	1.209	1.909	2.732	3.790	5.386	6.682	9.141	11.963	14.226	17.287	16.590

1983	0.645	1.247	1.934	2.658	3.645	5.481	7.049	8.128	11.009	13.972	15.882	18.498
1984	0.645	1.346	2.207	3.151	3.890	5.798	7.456	9.851	11.052	14.338	15.273	16.660
1985	1.312	1.399	1.766	2.738	3.483	4.762	7.301	10.320	12.197	14.683	16.175	19.050
1986	1.312	1.612	2.915	3.279	4.591	5.803	7.199	9.084	10.356	15.283	14.540	15.017
1987	1.718	1.598	2.439	3.532	4.886	6.408	7.499	9.243	10.697	10.622	15.894	12.592
1988	0.931	1.486	2.281	3.287	4.423	4.678	8.147	8.822	9.977	11.732	14.156	13.042
1989	0.823	1.526	2.364	3.426	4.702	7.273	8.436	9.831	11.986	10.003	12.611	16.045
1990	0.733	1.044	2.199	2.841	4.367	6.177	8.919	10.592	10.993	14.570	15.732	17.290
1991	0.114	1.288	2.069	2.799	3.477	6.007	8.823	9.804	9.754	14.344	14.172	20.200
1992	0.449	1.349	2.117	3.086	3.861	5.196	7.429	8.127	12.679	13.410	15.715	11.267
1993	0.773	1.374	2.316	3.276	4.179	5.729	6.441	8.641	10.901	12.517	14.742	16.874
1994	1.618	1.733	2.259	3.384	4.563	6.471	9.803	8.896	10.847	12.874	14.742	17.470
1995	0.514	1.639	2.353	3.197	4.493	5.544	8.579	10.273	11.022	11.407	13.098	15.182
1996	0.542	1.756	2.490	3.530	4.251	5.621	8.263	9.772	10.539	13.503	13.689	16.194
1997	1.111	1.346	2.267	3.723	5.415	5.963	6.964	8.537	10.797	11.533	10.428	12.788
1998	1.111	1.605	2.262	3.262	4.461	5.759	6.793	9.304	10.759	14.903	16.651	18.666
1999	1.311	1.471	1.936	2.999	3.968	5.132	6.522	9.946	11.088	12.535	14.995	15.151
2000	0.497	1.355	1.916	2.881	4.318	5.573	8.464	9.203	10.240	11.172	13.172	17.442
2001	0.816	1.583	2.080	2.676	4.112	6.236	6.926	8.445	9.311	9.566	10.242	9.503
2002	0.782	1.591	2.260	3.120	3.991	5.991	9.225	8.100	9.276	11.660	11.221	14.029
2003	1.150	1.326	2.241	3.049	4.226	5.051	6.823	7.138	9.580	10.260	11.479	10.720
2004	1.150	1.456	2.095	3.011	3.678	5.192	5.400	7.376	10.038	10.322	12.428	11.452
2005	0.648	1.123	1.908	2.979	3.901	4.789	7.238	6.124	7.964	10.075	12.776	13.719
2006	0.907	1.407	2.016	2.913	4.351	5.057	6.472	6.028	8.455	11.154	12.608	15.381
2007	1.439	1.261	2.023	2.640	4.116	5.697	6.632	6.405	7.182	9.506	10.406	10.532
2008	0.912	1.845	2.232	2.911	3.897	5.400	6.927	7.367	7.784	10.505	11.621	18.092
2009	0.644	1.465	2.041	2.887	3.943	4.923	7.044	8.354	9.529	11.193	11.761	14.918
2010	0.644	1.590	2.154	3.149	4.207	5.207	6.460	8.024	8.968	10.419	11.647	12.208
2011	0.794	2.467	2.666	3.216	4.546	5.989	6.851	7.828	8.805	9.662	12.941	11.649
2012	1.404	1.702	2.606	3.717	4.516	6.016	8.038	7.988	9.111	10.720	12.042	11.608

2013	0.944	2.323	2.991	3.834	5.207	6.532	8.260	8.137	9.173	10.121	10.421	12.702
2014	0.944	1.332	2.549	3.316	4.459	6.390	8.178	8.586	8.967	10.518	10.286	12.354
2015	0.704	1.043	3.320	3.836	4.895	6.218	8.677	8.600	9.687	11.205	11.330	10.360
2016	0.972	2.247	3.042	4.213	4.614	6.000	7.351	8.486	10.111	10.701	11.362	13.899
2017	1.773	2.582	3.513	3.936	5.698	6.716	7.636	8.486	9.509	11.095	11.575	12.800
2018	1.029	2.372	3.230	3.862	4.574	6.671	7.711	8.699	9.445	10.072	10.269	11.638
2019	0.599	3.044	3.260	4.221	4.700	5.498	7.481	8.095	8.842	10.596	11.687	12.003
2020	0.949	1.651	3.012	3.867	4.967	5.984	7.191	8.574	8.842	10.596	11.687	12.003

Table 9.5 Icelandic cod in Division Va. Estimated maturity at age in period the 1955-2020.

year	3	4	5	6	7	8	9	10	11	12	13	14
1955	0.019	0.022	0.033	0.181	0.577	0.782	0.834	0.960	1.000	1.000	1.000	1
1956	0.019	0.025	0.033	0.111	0.577	0.782	0.818	0.980	0.980	1.000	1.000	1
1957	0.019	0.026	0.043	0.100	0.549	0.801	0.842	0.990	1.000	1.000	1.000	1
1958	0.019	0.028	0.086	0.520	0.682	0.801	0.834	1.000	1.000	1.000	1.000	1
1959	0.019	0.029	0.070	0.535	0.772	0.818	0.834	0.990	1.000	1.000	1.000	1
1960	0.019	0.026	0.066	0.577	0.782	0.826	0.834	0.990	1.000	1.000	1.000	1
1961	0.019	0.025	0.053	0.450	0.772	0.818	0.834	0.990	0.990	1.000	1.000	1
1962	0.019	0.025	0.048	0.281	0.791	0.834	0.834	0.990	0.990	1.000	1.000	1
1963	0.019	0.025	0.048	0.237	0.706	0.834	0.849	1.000	1.000	1.000	1.000	1
1964	0.019	0.026	0.048	0.329	0.762	0.826	0.849	1.000	1.000	1.000	1.000	1
1965	0.019	0.025	0.045	0.354	0.751	0.826	0.842	1.000	1.000	1.000	1.000	1
1966	0.019	0.026	0.045	0.394	0.791	0.849	0.849	1.000	1.000	1.000	1.000	1
1967	0.019	0.028	0.051	0.341	0.772	0.842	0.849	1.000	1.000	1.000	1.000	1
1968	0.019	0.025	0.051	0.292	0.682	0.801	0.842	1.000	1.000	1.000	1.000	1
1969	0.019	0.028	0.043	0.227	0.682	0.801	0.842	1.000	1.000	1.000	1.000	1
1970	0.019	0.023	0.041	0.227	0.644	0.772	0.818	1.000	1.000	1.000	1.000	1
1971	0.019	0.025	0.037	0.074	0.657	0.706	0.772	0.979	0.994	0.982	0.993	1
1972	0.019	0.023	0.035	0.106	0.450	0.772	0.809	0.979	0.994	0.982	0.993	1
1973	0.022	0.028	0.163	0.382	0.697	0.801	0.834	0.996	0.996	1.000	1.000	1
1974	0.020	0.031	0.085	0.346	0.636	0.790	0.818	0.989	1.000	1.000	1.000	1

1975	0.020	0.035	0.118	0.287	0.715	0.809	0.839	1.000	1.000	1.000	1.000	1
1976	0.025	0.026	0.086	0.253	0.406	0.797	0.841	1.000	1.000	1.000	1.000	1
1977	0.019	0.024	0.060	0.382	0.742	0.817	0.842	1.000	1.000	1.000	1.000	1
1978	0.025	0.025	0.052	0.192	0.737	0.820	0.836	1.000	1.000	1.000	1.000	1
1979	0.019	0.021	0.053	0.282	0.635	0.790	0.836	0.919	1.000	1.000	1.000	1
1980	0.026	0.021	0.047	0.225	0.653	0.777	0.834	0.977	1.000	0.964	1.000	1
1981	0.019	0.022	0.030	0.090	0.448	0.751	0.811	0.962	0.988	1.000	1.000	1
1982	0.021	0.025	0.038	0.065	0.297	0.705	0.815	0.967	1.000	1.000	1.000	1
1983	0.019	0.030	0.047	0.116	0.264	0.530	0.715	0.979	0.985	1.000	1.000	1
1984	0.019	0.024	0.053	0.169	0.444	0.620	0.716	0.949	0.969	0.948	1.000	1
1985	0.000	0.021	0.186	0.414	0.495	0.730	0.580	0.746	1.000	1.000	1.000	1
1986	0.001	0.023	0.154	0.398	0.681	0.727	0.936	0.667	1.000	1.000	1.000	1
1987	0.001	0.033	0.094	0.359	0.487	0.879	0.777	0.805	1.000	1.000	1.000	1
1988	0.006	0.029	0.220	0.498	0.446	0.677	0.932	0.890	1.000	1.000	1.000	1
1989	0.008	0.026	0.141	0.363	0.621	0.639	0.619	1.000	1.000	1.000	1.000	1
1990	0.006	0.012	0.154	0.428	0.576	0.781	0.774	0.714	1.000	1.000	1.000	1
1991	0.000	0.055	0.149	0.368	0.629	0.787	0.654	0.901	1.000	1.000	1.000	1
1992	0.002	0.062	0.265	0.407	0.813	0.916	0.880	1.000	1.000	1.000	1.000	1
1993	0.006	0.085	0.267	0.462	0.684	0.795	0.843	0.834	1.000	1.000	1.000	1
1994	0.008	0.109	0.338	0.590	0.706	0.921	0.694	0.830	1.000	1.000	1.000	1
1995	0.005	0.109	0.383	0.527	0.747	0.790	0.859	1.000	1.000	1.000	1.000	1
1996	0.002	0.032	0.186	0.501	0.653	0.733	0.810	0.774	1.000	1.000	1.000	1
1997	0.006	0.037	0.247	0.427	0.686	0.786	0.804	0.539	1.000	1.000	1.000	1
1998	0.000	0.061	0.208	0.486	0.782	0.807	0.809	0.852	1.000	1.000	1.000	1
1999	0.012	0.044	0.239	0.517	0.650	0.836	0.691	0.974	1.000	1.000	1.000	1
2000	0.001	0.065	0.248	0.512	0.611	0.867	0.998	0.999	1.000	1.000	1.000	1
2001	0.003	0.046	0.286	0.599	0.761	0.766	0.883	1.000	1.000	1.000	1.000	1
2002	0.006	0.086	0.321	0.656	0.759	0.920	0.559	0.724	1.000	1.000	1.000	1
2003	0.005	0.048	0.222	0.532	0.873	0.798	0.879	0.833	1.000	1.000	1.000	1
2004	0.000	0.040	0.249	0.549	0.631	0.833	0.807	0.854	1.000	1.000	1.000	1

2005	0.003	0.108	0.281	0.494	0.795	0.808	0.949	0.904	1.000	1.000	1.000	1
2006	0.002	0.023	0.298	0.446	0.749	0.874	0.739	0.741	1.000	1.000	1.000	1
2007	0.012	0.031	0.156	0.504	0.696	0.797	0.836	0.926	1.000	1.000	1.000	1
2008	0.001	0.042	0.275	0.546	0.728	0.833	0.850	0.958	1.000	1.000	1.000	1
2009	0.002	0.015	0.134	0.451	0.684	0.884	0.752	0.631	1.000	1.000	1.000	1
2010	0.000	0.015	0.057	0.380	0.821	0.868	0.927	0.813	1.000	1.000	1.000	1
2011	0.002	0.012	0.136	0.427	0.732	0.923	0.941	0.961	1.000	1.000	1.000	1
2012	0.004	0.031	0.127	0.414	0.730	0.884	0.963	0.850	1.000	1.000	1.000	1
2013	0.003	0.008	0.062	0.344	0.738	0.922	0.965	1.000	1.000	1.000	1.000	1
2014	0.000	0.026	0.069	0.238	0.615	0.893	0.967	0.956	1.000	1.000	1.000	1
2015	0.003	0.007	0.110	0.353	0.636	0.907	0.978	0.988	1.000	1.000	1.000	1
2016	0.001	0.009	0.025	0.289	0.543	0.731	0.941	0.986	1.000	1.000	1.000	1
2017	0.005	0.008	0.089	0.262	0.765	0.906	0.979	0.987	1.000	1.000	1.000	1
2018	0.002	0.013	0.147	0.434	0.605	0.935	0.953	1.000	1.000	1.000	1.000	1
2019	0.004	0.004	0.062	0.452	0.707	0.898	0.987	0.993	1.000	1.000	1.000	1
2020	0.003	0.036	0.056	0.273	0.784	0.897	0.966	1.000	1.000	1.000	1.000	1

Table 9.6. Icelandic cod in Division Va. Survey indices of the spring bottom trawl survey (SMB).

year	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1985	17.18	111.13	35.38	48.27	64.85	23.21	15.46	5.21	3.56	1.94	0.31	0.32	0.09	0.08
1986	15.61	61.06	96.43	22.58	21.75	27.73	7.36	2.85	0.96	0.85	0.31	0.08	0.06	0.04
1987	3.66	28.16	104.43	82.67	21.47	12.83	13.01	2.81	0.99	0.41	0.45	0.23	0.13	0.13
1988	3.45	7.08	73.15	103.77	69.56	8.47	6.57	7.28	0.70	0.29	0.12	0.27	0.06	0.05
1989	4.02	16.39	21.28	75.16	71.44	38.41	4.82	1.71	1.41	0.27	0.19	0.06	0.01	0.01
1990	5.47	11.74	26.44	14.30	27.98	35.30	16.78	1.76	0.58	0.47	0.13	NA	0.04	0.04
1991	3.95	15.97	18.11	30.13	15.44	18.90	22.46	4.93	0.94	0.31	0.22	NA	0.08	0.08
1992	0.71	16.96	33.51	18.78	16.44	6.80	6.33	5.75	1.48	0.23	0.04	0.04	0.04	NA
1993	3.55	4.66	30.75	36.67	13.49	10.59	2.42	2.02	1.39	0.41	0.13	0.03	0.03	0.01
1994	14.22	14.72	9.02	26.93	22.45	6.08	3.95	0.79	0.53	0.50	0.18	0.02	0.03	0.01
1995	1.08	29.27	24.77	9.07	24.56	18.47	4.04	1.92	0.39	0.20	0.24	0.14	0.03	NA
1996	3.70	5.42	42.50	29.69	13.25	15.43	15.22	4.21	1.16	0.21	0.07	0.22	0.10	0.05

1997	1.20	22.39	13.61	56.71	29.74	9.98	9.47	7.29	0.62	0.25	0.19	0.04	0.15	0.10
1998	8.04	5.46	30.11	16.08	63.24	29.99	7.01	5.78	3.33	0.76	0.20	NA	0.02	NA
1999	7.38	33.15	6.99	42.29	13.27	24.77	12.00	2.61	1.47	0.83	0.19	0.07	NA	NA
2000	18.79	27.69	55.16	7.01	30.86	8.71	8.85	4.60	0.56	0.35	0.08	0.03	0.04	0.01
2001	12.24	23.59	36.46	38.18	5.07	15.70	3.53	2.15	0.90	0.34	0.12	0.09	0.05	0.02
2002	0.96	38.56	41.31	40.59	37.26	7.47	8.99	1.66	0.81	0.35	0.07	0.01	NA	NA
2003	11.16	4.20	46.55	36.90	29.21	17.76	4.13	4.79	1.13	0.23	0.13	0.01	0.09	NA
2004	7.34	27.62	8.24	66.84	41.29	30.95	17.60	3.27	3.57	0.57	0.32	0.01	NA	0.01
2005	2.69	17.79	41.72	9.95	46.31	24.99	12.10	6.45	1.01	1.03	0.27	0.24	0.03	NA
2006	9.09	7.43	25.06	40.53	11.73	31.64	11.66	4.11	1.62	0.28	0.16	0.02	NA	NA
2007	5.65	19.04	9.07	22.77	29.88	10.06	11.37	6.10	2.44	0.86	0.30	0.13	0.01	NA
2008	6.75	12.41	23.00	9.84	22.36	22.94	9.44	8.00	3.03	0.77	0.44	0.09	0.05	NA
2009	22.14	12.74	16.46	22.41	15.49	25.86	16.60	4.81	3.15	1.16	0.28	0.11	0.07	0.03
2010	18.62	21.51	18.89	18.10	24.64	14.13	18.36	9.87	3.24	1.93	0.58	0.26	0.05	0.02
2011	3.55	22.96	27.54	20.10	23.07	26.66	14.70	13.37	5.02	1.01	1.01	0.21	0.07	0.02
2012	20.36	11.03	39.37	56.70	41.90	31.19	28.43	10.88	7.06	3.21	0.97	0.48	0.36	0.13
2013	10.89	33.70	18.22	44.39	47.10	25.89	17.15	14.44	7.19	3.47	1.68	0.71	0.16	0.25
2014	3.29	24.25	39.05	23.75	47.55	38.29	17.83	8.45	4.37	2.24	0.84	0.52	0.12	0.12
2015	21.06	10.98	28.05	42.23	21.22	41.98	29.41	17.09	5.13	3.18	1.48	0.60	0.17	0.10
2016	31.71	31.65	15.21	37.62	54.80	28.19	38.46	19.05	7.00	2.33	1.24	0.85	0.26	0.12
2017	3.83	24.95	33.72	18.16	36.43	40.35	23.62	22.55	11.86	5.15	2.09	0.88	0.54	0.09
2018	11.48	14.52	29.97	36.88	16.11	28.81	26.66	15.32	7.85	3.72	1.24	0.59	0.25	0.10
2019	7.99	22.09	14.63	30.72	31.46	14.13	20.34	17.31	9.43	5.98	2.56	0.95	0.38	0.04
2020	29.45	13.21	19.32	10.07	18.48	15.32	7.49	10.27	7.34	4.13	3.56	2.04	0.48	0.02

Table 9.7. Icelandic cod in Division Va. Survey indices of the fall bottom trawl survey (SMH).

year	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1996	6.323	3.433	19.594	14.191	5.568	7.699	6.489	1.652	0.310	0.083	0.020	0.051	0.014	NA
1997	0.634	16.657	6.651	29.249	16.338	5.401	3.737	2.134	0.306	0.145	0.013	0.029	0.042	NA

1998	5.713	2.588	15.335	7.293	16.104	16.161	5.241	2.251	1.272	0.204	0.050	0.025	0.011	NA
1999	7.996	13.794	5.581	23.159	7.449	10.045	4.085	0.587	0.341	0.367	0.032	NA	0.062	NA
2000	4.520	12.736	15.236	3.757	11.543	3.642	2.705	1.142	0.344	0.284	0.109	0.018	0.012	NA
2001	6.888	11.288	19.321	21.271	3.398	6.932	1.651	0.792	0.176	0.029	0.103	0.016	NA	NA
2002	0.934	13.189	15.838	23.389	16.207	5.534	4.865	1.132	0.627	0.078	0.167	0.019	0.037	NA
2003	5.198	2.732	26.051	17.313	13.473	9.114	1.915	2.588	0.368	0.104	0.088	0.017	0.016	NA
2004	3.568	15.837	6.907	30.306	19.384	12.070	7.603	1.922	1.683	0.232	0.109	0.073	NA	NA
2005	2.128	8.866	19.967	6.772	26.102	11.297	4.004	1.962	0.312	0.316	0.031	0.059	0.024	NA
2006	4.407	4.409	15.878	22.852	7.785	14.450	6.309	2.118	1.052	0.165	0.113	NA	0.014	NA
2007	3.668	9.571	4.901	12.101	16.261	6.526	6.105	3.210	0.802	0.533	0.040	0.084	NA	NA
2008	6.680	12.737	15.075	8.063	17.949	18.807	5.891	5.588	1.411	0.739	0.281	0.093	0.018	0.026
2009	6.776	9.260	13.727	17.711	12.756	16.890	10.571	3.289	2.760	0.923	0.305	0.162	0.013	0.048
2010	11.902	22.213	16.448	15.980	18.080	9.886	11.301	6.762	2.264	1.239	0.548	0.070	0.106	0.027
2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2012	9.677	10.794	24.846	21.580	12.811	11.131	9.587	5.406	3.248	1.434	0.553	0.161	0.111	0.123
2013	8.099	28.823	14.070	26.048	21.290	12.617	7.876	6.014	3.061	1.872	0.989	0.459	0.211	0.078
2014	4.031	20.359	30.521	15.918	24.264	19.850	8.463	5.719	3.676	2.112	1.375	0.693	0.313	0.112
2015	18.852	12.839	34.955	43.590	18.982	27.606	16.135	5.387	3.099	1.097	0.578	0.467	0.190	0.079
2016	12.001	18.443	8.685	17.909	22.236	10.988	11.949	6.710	2.673	1.527	0.760	0.464	0.173	NA
2017	6.072	25.957	32.338	16.856	31.308	31.987	12.129	9.742	4.370	1.526	0.971	0.460	0.348	0.188
2018	8.692	10.623	21.844	20.996	8.404	13.432	12.872	7.421	4.993	2.306	0.851	0.395	0.143	0.070

2019	8.327	20.053	19.377	26.604	18.012	9.066	8.658	5.302	2.465	1.679	0.737	0.264	0.155	0.023
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Table 9.8. Icelandic cod in Division Va. Catch at age residuals from the ADCAM model tuned with the spring (SMB) and the fall (SMH) surveys.

year	3	4	5	6	7	8	9	10	11	12	13	14
1955	-0.12	-0.21	0.08	0.12	0.21	-0.11	-0.16	0.13	-0.10	-0.45	-0.21	0.00
1956	-0.03	-0.05	0.03	0.00	-0.13	-0.20	-0.01	0.01	0.17	0.09	0.23	0.22
1957	0.09	0.02	-0.01	0.17	-0.13	0.09	0.06	-0.15	-0.10	-0.12	-0.38	0.52
1958	0.15	0.18	-0.26	-0.07	0.06	0.08	0.13	-0.23	0.23	0.00	-0.23	0.39
1959	-0.21	0.21	0.26	-0.24	-0.22	-0.06	-0.07	0.28	-0.26	0.38	-0.23	-0.41
1960	0.10	-0.36	0.14	0.19	0.06	0.07	-0.03	-0.11	-0.04	0.03	-0.64	0.90
1961	0.05	0.04	-0.40	0.12	-0.02	0.27	0.20	-0.14	0.09	-0.19	-0.98	0.82
1962	0.09	-0.01	0.12	-0.24	0.12	-0.30	0.09	0.26	-0.06	0.03	-0.40	0.69
1963	-0.06	0.29	-0.18	0.01	-0.03	-0.07	-0.38	0.21	0.35	0.06	0.07	-0.62
1964	-0.13	-0.02	0.13	-0.25	-0.12	0.38	-0.10	-0.45	-0.01	0.27	-0.16	0.00
1965	-0.03	-0.11	0.09	0.16	-0.13	0.05	0.47	-0.48	-0.05	-0.51	-0.36	0.63
1966	-0.04	-0.04	-0.18	0.10	-0.07	0.12	-0.35	0.59	-0.83	0.28	0.01	1.06
1967	0.19	-0.13	0.02	-0.20	0.02	-0.37	0.49	0.05	0.67	-0.73	-0.84	-0.18
1968	0.03	-0.02	-0.27	-0.12	0.23	0.16	-0.42	0.37	-0.12	0.60	-0.66	0.65
1969	-0.09	-0.03	0.15	-0.01	0.05	-0.15	-0.33	-0.25	-0.04	-0.26	-0.81	-0.14
1970	-0.09	0.14	-0.05	-0.14	0.05	-0.16	0.48	-0.58	-0.12	0.24	0.29	0.45
1971	-0.10	0.07	0.09	0.18	-0.18	0.28	-0.17	0.06	-0.45	-0.02	0.12	0.36
1972	-0.17	-0.13	0.07	-0.03	0.12	-0.05	-0.10	0.29	-0.07	0.17	0.52	-2.76
1973	0.28	-0.02	-0.10	0.03	0.00	-0.24	0.09	0.17	0.16	-0.20	-1.25	-2.09
1974	-0.16	0.21	-0.02	-0.18	-0.01	0.00	-0.22	0.29	0.01	0.18	-0.44	0.82
1975	0.19	-0.07	0.04	-0.05	0.03	-0.15	-0.21	-0.01	0.41	-0.02	-0.12	0.11
1976	0.10	0.00	-0.17	0.08	-0.09	0.25	-0.16	-0.15	0.06	0.27	-0.23	0.26
1977	-0.40	-0.06	0.05	-0.09	0.13	0.05	0.31	0.03	-0.70	-0.48	-1.22	-2.47
1978	0.08	-0.02	0.04	-0.10	0.04	-0.21	0.12	-0.19	0.02	-0.05	0.53	1.22
1979	0.15	0.10	-0.22	0.10	-0.05	0.03	-0.31	-0.08	0.05	-0.15	0.40	-0.19
1980	0.22	0.00	0.09	0.06	-0.01	-0.09	0.12	-0.49	0.30	0.09	0.15	-1.08

1981	-0.30	-0.20	0.07	-0.13	0.07	0.11	0.01	0.32	-0.08	0.59	-0.03	1.17
1982	0.01	0.15	0.08	-0.06	-0.22	0.18	0.20	0.13	-0.24	-0.87	0.04	-0.85
1983	-0.32	-0.36	0.11	0.15	0.03	0.01	-0.05	0.00	0.00	0.37	-0.20	0.61
1984	0.35	0.03	-0.06	-0.05	-0.09	-0.02	0.05	-0.14	-0.32	0.17	0.71	0.13
1985	0.03	0.18	-0.10	0.12	-0.09	-0.02	-0.15	0.14	0.04	-0.28	0.50	0.53
1986	0.14	-0.13	0.02	-0.01	0.18	-0.04	0.12	-0.22	0.10	0.08	-0.51	0.28
1987	-0.15	0.12	0.00	-0.16	0.07	0.04	-0.02	0.13	-0.38	-0.09	0.17	-0.14
1988	-0.08	-0.06	-0.06	0.12	-0.08	0.08	0.16	0.04	0.49	0.01	0.58	0.23
1989	-0.21	0.06	0.15	-0.08	-0.02	-0.15	-0.31	-0.08	-0.01	0.53	-0.03	-1.32
1990	0.00	-0.13	-0.09	-0.01	0.03	0.08	-0.07	-0.20	0.31	0.13	-0.20	0.13
1991	0.07	0.05	-0.12	-0.05	0.09	-0.08	0.11	-0.05	-0.27	0.43	-0.55	0.18
1992	-0.24	0.08	0.05	0.03	0.12	-0.01	-0.04	-0.07	-0.72	-0.73	-0.55	-0.10
1993	0.25	0.04	-0.20	-0.06	-0.08	-0.11	0.07	0.49	0.50	-0.20	-0.97	0.47
1994	0.02	0.24	-0.13	-0.20	-0.04	0.06	-0.18	-0.14	0.43	0.49	0.49	-0.38
1995	0.27	-0.05	0.08	-0.04	-0.04	-0.11	-0.13	-0.26	-0.20	0.71	1.04	0.58
1996	0.01	-0.06	-0.19	0.07	0.05	0.02	0.13	0.18	-0.34	-0.41	0.54	-0.15
1997	-0.16	0.04	-0.03	-0.14	-0.10	0.22	0.18	0.28	0.44	-0.69	-0.27	0.09
1998	-0.17	-0.17	0.09	0.07	0.00	-0.17	0.26	0.07	0.14	0.31	0.17	-0.77
1999	-0.11	0.06	0.05	0.05	0.09	-0.05	-0.23	-0.15	-0.20	-0.34	-0.45	-0.87
2000	0.17	-0.24	0.14	-0.03	0.01	0.10	0.03	-0.11	0.07	0.20	-0.09	-0.05
2001	0.27	0.24	-0.19	0.04	0.03	-0.25	0.07	0.32	-0.08	0.27	-0.56	1.18
2002	-0.08	0.07	0.05	-0.06	0.01	0.02	-0.09	0.24	0.33	-0.11	0.23	-0.59
2003	-0.05	0.04	0.03	-0.10	0.10	0.07	0.20	-0.18	0.11	0.22	0.13	1.03
2004	-0.28	0.09	0.10	-0.03	-0.04	0.23	-0.03	0.22	-0.33	0.17	0.26	-0.14
2005	0.20	-0.28	0.16	-0.05	-0.10	-0.07	0.30	0.01	0.42	0.16	0.29	-0.09
2006	-0.06	0.06	-0.12	0.09	0.06	-0.07	-0.08	0.19	-0.19	-0.27	-0.67	-0.02
2007	-0.17	0.15	-0.03	-0.01	-0.10	0.08	0.01	0.19	0.78	-0.25	1.14	-0.73
2008	0.14	-0.21	0.07	-0.15	0.03	-0.17	0.02	0.15	-0.07	0.36	0.20	-0.47
2009	0.07	-0.08	0.02	0.16	0.00	0.19	-0.22	-0.25	-0.02	-0.37	0.10	-0.24
2010	0.08	0.02	-0.12	-0.02	0.08	-0.07	0.13	-0.18	-0.16	0.14	0.28	0.80

2011	-0.02	-0.04	0.07	0.00	-0.05	0.00	-0.15	0.06	-0.13	-0.22	-0.28	-0.32
2012	-0.14	0.03	0.00	-0.06	0.03	0.13	0.00	-0.25	-0.08	-0.16	-0.03	-0.14
2013	0.27	-0.03	0.05	0.01	-0.06	-0.02	0.08	0.00	-0.20	0.07	0.00	-0.36
2014	-0.11	-0.02	0.03	-0.02	0.02	-0.07	-0.08	0.06	0.02	-0.19	0.24	0.29
2015	0.09	0.08	0.03	0.01	-0.10	0.02	-0.10	-0.07	0.39	-0.18	-0.46	-0.22
2016	-0.13	0.02	-0.18	0.08	0.11	-0.02	0.04	-0.06	-0.08	0.32	-0.31	-0.63
2017	0.00	0.06	0.05	-0.06	-0.05	-0.07	-0.04	0.07	-0.16	-0.04	0.24	0.12
2018	-0.03	0.07	-0.07	0.04	-0.02	0.18	-0.03	-0.22	-0.16	-0.05	-0.44	0.08
2019	0.01	-0.19	0.00	0.04	-0.10	-0.10	0.13	0.18	0.17	-0.02	-0.03	0.09

Table 9.9. Icelandic cod in Division Va. Spring survey (SMB) at age residuals from the ADCAM model, assessment tuned with both the spring and the fall survey.

year	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1985	-0.54	0.03	0.24	0.49	0.17	0.28	0.39	0.17	0.27	0.64	0.16	-0.10	0.01	0.23
1986	0.46	-0.05	-0.36	-0.20	-0.03	0.02	-0.16	-0.31	-0.29	-0.12	-0.15	-0.11	-0.41	-0.02
1987	0.69	0.03	0.18	-0.45	-0.01	-0.06	0.04	-0.13	-0.15	-0.10	0.15	0.21	0.36	0.21
1988	-0.19	0.03	0.58	0.19	-0.10	-0.34	0.09	0.46	-0.15	-0.15	-0.15	0.37	-0.01	0.17
1989	0.39	0.07	0.54	0.56	0.24	0.17	-0.16	-0.14	0.16	0.04	0.22	0.01	-0.23	-0.09
1990	-0.53	0.11	0.13	0.12	-0.09	-0.15	0.05	-0.20	-0.09	0.07	0.10	-0.30	0.08	0.09
1991	-0.18	-0.45	0.13	0.21	0.29	0.06	0.10	-0.20	0.15	0.13	0.13	-0.26	0.28	0.35
1992	-0.22	0.02	-0.15	0.16	-0.06	-0.13	-0.15	-0.20	-0.20	-0.09	-0.27	-0.15	0.12	-0.07
1993	-0.55	-0.06	0.22	0.00	0.08	-0.03	-0.23	-0.19	-0.31	-0.32	0.12	-0.05	0.00	0.01
1994	0.51	-0.27	0.04	0.16	-0.15	-0.32	-0.18	-0.26	-0.23	-0.18	-0.11	-0.09	0.09	-0.01
1995	-0.20	0.15	-0.19	-0.02	0.20	0.00	-0.23	-0.12	-0.10	-0.26	-0.07	0.15	0.08	-0.05
1996	-0.63	-0.12	0.15	-0.09	0.23	-0.03	0.25	0.36	0.17	0.00	-0.28	0.27	0.23	0.23
1997	0.23	-0.02	0.16	0.33	-0.01	-0.05	-0.06	0.21	-0.39	-0.33	0.33	-0.13	0.34	0.35
1998	-0.09	0.12	-0.11	0.16	0.55	0.29	0.06	0.15	0.38	0.44	0.10	-0.24	-0.06	-0.18
1999	-0.02	0.22	-0.02	0.11	-0.02	0.08	-0.01	-0.08	-0.10	0.07	0.10	0.04	-0.10	-0.08
2000	0.90	0.16	0.36	-0.13	-0.03	-0.22	-0.24	-0.08	-0.35	-0.33	-0.59	-0.14	0.09	0.03
2001	0.25	0.06	0.08	-0.02	-0.43	-0.22	-0.43	-0.65	-0.46	0.07	-0.21	0.00	0.16	0.07
2002	-0.09	0.32	0.22	0.15	0.12	-0.15	-0.20	-0.36	-0.53	-0.30	-0.13	-0.28	-0.19	-0.05

2003	0.08	-0.13	0.16	0.04	-0.04	-0.18	-0.22	-0.10	0.09	-0.66	-0.19	-0.16	0.33	-0.08
2004	-0.02	0.29	-0.07	0.42	0.25	0.35	0.29	0.16	0.49	0.31	0.25	-0.32	-0.09	0.01
2005	-0.16	0.12	0.32	-0.06	0.19	0.13	0.00	0.03	0.01	0.26	0.38	0.52	0.02	-0.03
2006	0.30	-0.06	0.06	0.19	-0.05	0.21	-0.09	-0.32	-0.34	-0.21	-0.34	-0.18	-0.19	-0.07
2007	0.04	0.25	-0.29	-0.14	-0.06	-0.16	-0.26	-0.05	0.06	-0.05	0.42	0.08	-0.06	-0.08
2008	-0.02	0.03	0.06	-0.37	-0.19	-0.04	0.14	0.00	0.14	-0.12	0.16	0.15	0.04	-0.05
2009	0.40	-0.09	-0.11	-0.10	-0.14	0.00	0.00	0.05	-0.09	0.02	-0.23	-0.17	0.23	0.06
2010	0.02	-0.14	-0.13	-0.16	-0.07	-0.17	0.02	0.04	0.42	0.20	0.09	0.21	-0.11	0.05
2011	-0.64	-0.22	-0.27	-0.21	-0.04	0.14	0.13	0.21	0.11	0.02	0.22	-0.15	-0.10	-0.10
2012	0.05	-0.23	-0.09	0.27	0.39	0.34	0.50	0.31	0.28	0.32	0.52	0.11	0.56	0.33
2013	-0.23	0.07	-0.20	-0.08	0.12	0.10	0.08	0.31	0.58	0.23	0.31	0.71	-0.17	0.57
2014	-0.27	0.00	-0.13	-0.10	0.03	0.21	0.03	-0.13	-0.15	0.11	-0.44	-0.11	-0.05	0.04
2015	0.22	0.03	-0.22	-0.16	-0.26	0.22	0.23	0.42	0.03	0.16	0.32	-0.12	-0.32	0.15
2016	0.68	0.10	-0.07	-0.07	0.13	0.14	0.39	0.23	0.19	-0.14	-0.13	0.37	-0.19	-0.09
2017	-0.56	-0.06	-0.18	-0.06	-0.09	0.15	0.23	0.29	0.40	0.49	0.35	0.15	0.51	-0.29
2018	-0.15	-0.02	-0.24	-0.20	-0.26	-0.04	0.01	0.22	-0.12	-0.15	-0.27	-0.19	-0.23	-0.10
2019	-0.14	-0.06	-0.38	-0.32	-0.32	-0.29	-0.11	0.01	0.37	0.20	0.10	0.09	0.07	-0.49
2020	0.30	-0.23	-0.52	-0.80	-0.77	-0.65	-0.63	-0.35	-0.19	0.19	0.36	0.56	0.20	-0.51

Table 9.10. Icelandic cod in Division Va. Fall survey (SMH) at age residuals from the ADCAM model, assessment tuned with both the spring and the fall survey.

year	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1996	-0.18	-0.12	-0.12	-0.22	-0.02	-0.09	0.17	0.19	-0.22	-0.11	-0.29	-0.10	-0.08	-0.03
1997	-0.22	0.00	-0.04	0.21	0.05	-0.04	-0.16	-0.13	-0.29	-0.18	-0.20	-0.03	0.04	-0.09
1998	-0.40	-0.03	-0.28	0.00	-0.06	0.31	0.46	0.08	0.21	0.01	-0.13	0.03	-0.02	-0.09
1999	0.04	-0.24	0.12	0.08	0.05	-0.05	-0.16	-0.35	-0.42	0.05	-0.20	-0.18	0.30	-0.04
2000	-0.43	-0.19	-0.34	-0.10	-0.22	-0.25	-0.42	-0.37	-0.07	0.10	-0.04	-0.05	0.01	-0.02
2001	-0.28	-0.25	-0.02	-0.01	-0.23	-0.27	-0.28	-0.55	-0.66	-0.45	0.10	-0.14	-0.06	-0.02
2002	-0.20	-0.30	-0.20	0.15	0.01	0.09	-0.03	-0.02	-0.09	-0.53	0.48	-0.06	0.13	-0.02
2003	-0.17	-0.11	0.06	-0.14	-0.09	-0.17	-0.16	0.06	-0.12	-0.51	0.00	0.00	0.03	-0.04
2004	-0.23	0.10	0.12	0.17	0.19	0.10	0.23	0.33	0.47	0.16	0.03	0.19	-0.04	-0.03

2005	-0.01	-0.13	0.07	0.06	0.29	0.00	-0.25	-0.26	-0.21	-0.09	-0.17	0.10	0.07	-0.02
2006	0.06	-0.12	0.06	0.14	0.08	0.08	0.05	-0.17	-0.04	-0.05	-0.08	-0.16	0.00	-0.03
2007	0.05	-0.01	-0.35	-0.22	-0.03	-0.02	-0.13	0.08	-0.19	0.17	-0.14	0.15	-0.06	-0.04
2008	0.39	0.29	0.08	-0.12	0.13	0.26	0.31	0.32	0.07	0.38	0.26	0.31	-0.03	0.13
2009	-0.23	-0.06	0.12	0.13	0.16	0.12	0.22	0.32	0.40	0.37	0.25	0.29	0.00	0.21
2010	0.10	0.15	0.13	0.15	0.16	-0.02	0.19	0.32	0.61	0.32	0.45	-0.13	0.29	0.12
2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2012	-0.14	0.01	-0.08	-0.16	-0.16	-0.10	0.08	0.26	0.10	0.08	0.44	-0.22	0.11	0.42
2013	-0.02	0.19	-0.02	-0.12	-0.04	-0.07	-0.03	0.11	0.32	0.18	0.32	0.70	0.28	0.17
2014	0.26	0.11	0.07	-0.01	-0.03	0.07	-0.06	0.10	0.23	0.57	0.50	0.57	0.73	0.22
2015	0.61	0.38	0.39	0.31	0.14	0.28	0.25	-0.06	0.08	-0.32	-0.03	0.14	0.08	0.20
2016	0.24	-0.09	-0.14	-0.28	-0.14	-0.23	-0.12	-0.15	-0.18	-0.02	-0.06	0.32	-0.06	-0.43
2017	0.26	0.24	0.21	0.29	0.32	0.39	0.17	0.08	-0.03	-0.15	0.14	0.10	0.53	0.33
2018	0.07	0.01	-0.09	-0.25	-0.32	-0.24	-0.09	0.12	-0.03	-0.10	-0.11	-0.03	-0.15	0.01
2019	0.35	0.12	0.24	-0.02	-0.26	-0.22	-0.31	-0.48	-0.34	-0.45	-0.46	-0.34	-0.02	-0.26

Table 9.11. Icelandic cod in Division Va. Estimates of fishing mortality 1955-2019 based on ACAM using catch at age and spring and fall bottom survey indices.

year	3	4	5	6	7	8	9	10	11	12	13	14
1955	0.04	0.17	0.25	0.27	0.30	0.30	0.28	0.32	0.32	0.31	0.32	0.32
1956	0.05	0.18	0.25	0.26	0.29	0.30	0.29	0.34	0.35	0.33	0.33	0.33
1957	0.08	0.21	0.27	0.27	0.30	0.33	0.33	0.36	0.36	0.33	0.30	0.30
1958	0.11	0.25	0.30	0.29	0.32	0.37	0.40	0.44	0.44	0.38	0.32	0.32
1959	0.09	0.23	0.28	0.26	0.30	0.34	0.35	0.40	0.38	0.32	0.23	0.23
1960	0.10	0.23	0.29	0.29	0.34	0.40	0.43	0.48	0.47	0.38	0.27	0.27
1961	0.09	0.23	0.26	0.26	0.33	0.40	0.42	0.46	0.44	0.35	0.23	0.23
1962	0.11	0.25	0.28	0.26	0.35	0.42	0.47	0.51	0.49	0.38	0.24	0.24
1963	0.13	0.28	0.33	0.31	0.38	0.49	0.59	0.65	0.63	0.46	0.28	0.28
1964	0.13	0.29	0.37	0.36	0.43	0.57	0.74	0.81	0.84	0.61	0.39	0.39
1965	0.12	0.28	0.38	0.40	0.47	0.60	0.74	0.85	0.88	0.65	0.43	0.43
1966	0.09	0.25	0.34	0.38	0.49	0.62	0.78	0.92	1.01	0.79	0.53	0.53

1967	0.08	0.23	0.30	0.34	0.48	0.61	0.75	0.88	0.93	0.73	0.46	0.46
1968	0.08	0.25	0.34	0.41	0.58	0.77	1.04	1.20	1.36	1.09	0.74	0.74
1969	0.06	0.23	0.32	0.35	0.50	0.61	0.72	0.84	0.87	0.72	0.45	0.45
1970	0.07	0.27	0.39	0.43	0.55	0.65	0.76	0.89	0.95	0.81	0.52	0.52
1971	0.09	0.31	0.48	0.53	0.62	0.72	0.80	0.96	1.04	0.89	0.59	0.59
1972	0.09	0.30	0.48	0.55	0.65	0.73	0.79	0.96	1.06	0.92	0.61	0.61
1973	0.12	0.32	0.49	0.56	0.67	0.75	0.80	0.96	1.05	0.91	0.60	0.60
1974	0.11	0.32	0.50	0.58	0.70	0.83	0.92	1.06	1.19	1.04	0.71	0.71
1975	0.11	0.31	0.50	0.60	0.72	0.89	1.03	1.13	1.26	1.12	0.80	0.80
1976	0.07	0.26	0.43	0.55	0.70	0.86	0.95	1.02	1.08	0.97	0.68	0.68
1977	0.03	0.20	0.33	0.43	0.61	0.72	0.73	0.75	0.71	0.65	0.43	0.43
1978	0.03	0.17	0.28	0.35	0.53	0.60	0.55	0.56	0.49	0.46	0.30	0.30
1979	0.03	0.17	0.27	0.34	0.50	0.57	0.50	0.50	0.43	0.40	0.26	0.26
1980	0.03	0.17	0.31	0.38	0.54	0.62	0.56	0.55	0.48	0.45	0.31	0.31
1981	0.02	0.18	0.35	0.49	0.65	0.82	0.86	0.83	0.77	0.72	0.56	0.56
1982	0.03	0.19	0.40	0.56	0.70	0.90	0.98	0.89	0.78	0.71	0.55	0.55
1983	0.02	0.18	0.38	0.56	0.71	0.89	0.93	0.88	0.77	0.72	0.58	0.58
1984	0.04	0.20	0.38	0.53	0.68	0.81	0.77	0.73	0.64	0.61	0.49	0.49
1985	0.05	0.23	0.42	0.58	0.72	0.83	0.77	0.72	0.62	0.61	0.50	0.50
1986	0.06	0.26	0.52	0.72	0.83	0.96	0.88	0.78	0.68	0.66	0.54	0.54
1987	0.06	0.27	0.55	0.82	0.91	1.06	1.00	0.85	0.75	0.73	0.63	0.63
1988	0.05	0.26	0.52	0.80	0.92	1.11	1.09	0.95	0.89	0.86	0.78	0.78
1989	0.04	0.24	0.46	0.66	0.80	0.90	0.80	0.72	0.65	0.65	0.55	0.55
1990	0.05	0.25	0.47	0.66	0.79	0.86	0.75	0.68	0.62	0.61	0.51	0.51
1991	0.09	0.30	0.56	0.81	0.88	0.94	0.83	0.76	0.70	0.68	0.59	0.59
1992	0.10	0.32	0.60	0.87	0.93	1.00	0.88	0.78	0.71	0.69	0.60	0.60
1993	0.14	0.31	0.55	0.81	0.89	1.04	1.01	0.91	0.85	0.81	0.74	0.74
1994	0.09	0.24	0.39	0.54	0.68	0.77	0.72	0.68	0.62	0.60	0.53	0.53
1995	0.06	0.20	0.32	0.43	0.57	0.63	0.56	0.57	0.50	0.50	0.42	0.42
1996	0.04	0.16	0.28	0.41	0.56	0.63	0.58	0.59	0.53	0.52	0.45	0.45

1997	0.03	0.14	0.27	0.42	0.59	0.67	0.66	0.68	0.63	0.60	0.54	0.54
1998	0.03	0.15	0.33	0.52	0.66	0.78	0.81	0.82	0.78	0.74	0.70	0.70
1999	0.04	0.17	0.38	0.63	0.73	0.85	0.89	0.87	0.83	0.79	0.75	0.75
2000	0.06	0.18	0.38	0.61	0.73	0.85	0.90	0.89	0.85	0.82	0.79	0.79
2001	0.07	0.19	0.38	0.57	0.69	0.83	0.93	0.94	0.91	0.88	0.88	0.88
2002	0.05	0.16	0.33	0.49	0.60	0.72	0.81	0.85	0.81	0.79	0.78	0.78
2003	0.04	0.15	0.33	0.49	0.58	0.69	0.75	0.79	0.76	0.75	0.74	0.74
2004	0.03	0.14	0.33	0.52	0.59	0.70	0.77	0.80	0.79	0.78	0.78	0.78
2005	0.03	0.13	0.30	0.49	0.57	0.67	0.73	0.78	0.77	0.76	0.77	0.77
2006	0.03	0.12	0.27	0.48	0.56	0.68	0.74	0.76	0.76	0.74	0.76	0.76
2007	0.03	0.11	0.24	0.41	0.52	0.66	0.75	0.78	0.80	0.78	0.80	0.80
2008	0.02	0.09	0.19	0.32	0.44	0.55	0.60	0.63	0.61	0.61	0.60	0.60
2009	0.03	0.10	0.20	0.33	0.44	0.56	0.61	0.61	0.59	0.59	0.57	0.57
2010	0.03	0.09	0.17	0.28	0.39	0.48	0.49	0.50	0.48	0.49	0.45	0.45
2011	0.03	0.09	0.17	0.27	0.36	0.45	0.45	0.45	0.43	0.44	0.39	0.39
2012	0.03	0.10	0.17	0.27	0.35	0.43	0.43	0.45	0.42	0.45	0.40	0.40
2013	0.04	0.10	0.18	0.27	0.35	0.44	0.44	0.47	0.47	0.50	0.48	0.48
2014	0.03	0.10	0.16	0.25	0.33	0.41	0.42	0.46	0.48	0.54	0.53	0.53
2015	0.03	0.10	0.16	0.23	0.31	0.38	0.38	0.43	0.43	0.49	0.48	0.48
2016	0.03	0.10	0.16	0.23	0.30	0.38	0.38	0.44	0.45	0.51	0.51	0.51
2017	0.03	0.10	0.16	0.23	0.29	0.36	0.36	0.42	0.44	0.52	0.53	0.53
2018	0.03	0.10	0.17	0.25	0.30	0.36	0.36	0.41	0.42	0.51	0.55	0.55
2019	0.02	0.09	0.15	0.24	0.29	0.38	0.40	0.48	0.53	0.66	0.80	0.80

Table 9.12. Icelandic cod in Division Va. Estimates of numbers at age in the stock 1955-2020 (in millions) based on ACAM using catch at age and spring and fall bottom survey indices.

year	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1955	254.498	186.563	151.953	217.539	211.871	115.461	36.062	24.597	12.976	87.905	9.237	7.845	8.178	2.656
1956	329.342	208.365	152.745	119.527	150.235	134.756	71.884	21.833	14.872	8.014	52.160	5.481	4.727	4.852
1957	431.205	269.643	170.595	118.843	81.564	95.866	85.220	44.060	13.203	9.076	4.668	30.004	3.217	2.782
1958	230.254	353.041	220.765	128.780	78.490	50.796	59.831	51.670	35.182	7.799	5.176	2.661	17.674	1.960
1959	287.828	188.516	289.046	161.218	82.243	47.522	31.103	35.448	51.470	19.371	4.123	2.726	1.486	10.504
1960	192.354	235.654	154.344	216.102	104.535	50.770	30.105	18.889	20.630	37.503	10.652	2.307	1.623	0.970
1961	264.724	157.486	192.937	114.256	140.124	63.725	31.045	17.577	10.390	11.004	19.076	5.429	1.286	1.016
1962	304.135	216.738	128.939	143.803	74.684	88.501	40.155	18.205	23.590	5.597	5.693	10.065	3.138	0.841
1963	322.663	249.004	177.450	94.412	91.855	46.126	55.656	23.244	9.752	12.103	2.743	2.863	5.649	2.025
1964	341.754	264.174	203.868	127.600	58.236	54.159	27.720	31.058	11.628	4.437	5.191	1.201	1.477	3.479
1965	477.427	279.805	216.288	147.189	78.139	32.863	30.918	14.692	14.371	4.539	1.615	1.844	0.535	0.820
1966	256.271	390.884	229.085	156.966	90.728	43.562	17.987	15.806	6.591	5.592	1.592	0.549	0.785	0.286
1967	368.946	209.817	320.029	170.727	99.750	52.820	24.358	9.014	6.947	2.472	1.832	0.476	0.205	0.377
1968	269.064	302.067	171.783	242.689	111.175	60.314	30.847	12.294	4.011	2.689	0.841	0.592	0.189	0.106
1969	281.147	220.291	247.312	130.247	155.250	64.664	32.919	41.199	4.680	1.165	0.662	0.176	0.164	0.073
1970	207.550	230.184	180.359	191.474	84.520	92.058	37.149	32.887	18.347	1.865	0.412	0.226	0.070	0.085
1971	406.957	169.927	188.459	137.866	119.719	46.889	49.237	17.528	14.051	7.022	0.626	0.130	0.083	0.034
1972	266.977	333.189	139.125	141.250	82.878	60.755	22.547	21.681	23.278	5.170	2.206	0.182	0.044	0.038
1973	389.143	218.582	272.792	104.345	85.511	42.001	28.598	9.640	8.553	8.631	1.619	0.623	0.059	0.019

197 4	548.2 57	318.6 04	178.9 60	198.3 39	61.99 6	42.95 6	19.5 56	12.0 08	3.71 0	3.14 8	2.71 9	0.46 6	0.20 5	0.02 6
197 5	214.3 17	448.8 75	260.8 51	130.8 28	117.3 81	30.81 9	19.7 86	7.95 5	4.27 6	1.20 8	0.89 4	0.68 0	0.13 4	0.08 2
197 6	337.7 71	175.4 68	367.5 08	191.6 72	78.59 6	58.15 8	13.8 31	7.86 4	2.68 4	1.25 5	0.31 8	0.20 7	0.18 1	0.05 0
197 7	366.3 21	276.5 44	143.6 61	281.5 95	121.2 24	41.95 2	27.4 09	5.64 6	2.73 7	0.84 6	0.37 1	0.08 9	0.06 4	0.07 5
197 8	207.7 62	299.9 18	226.4 15	114.0 96	189.6 75	71.39 3	22.3 78	12.1 93	2.24 1	1.07 6	0.32 8	0.14 9	0.03 8	0.03 4
197 9	209.0 96	170.1 01	245.5 52	180.3 87	78.50 7	117.2 29	41.0 11	10.8 35	5.45 2	1.05 7	0.50 5	0.16 4	0.07 7	0.02 3
198 0	196.7 97	171.1 93	139.2 67	195.4 59	124.5 30	48.87 3	71.9 75	20.3 24	5.02 5	2.70 9	0.52 7	0.27 0	0.09 0	0.04 9
198 1	345.3 04	161.1 24	140.1 61	110.8 63	134.3 98	75.13 6	27.2 33	45.8 79	8.94 3	2.34 9	1.27 8	0.26 8	0.14 0	0.05 4
198 2	206.9 27	282.7 11	131.9 17	112.1 68	76.10 7	77.30 3	37.7 25	11.6 58	16.4 64	3.09 0	0.83 6	0.48 3	0.10 6	0.06 6
198 3	211.7 08	169.4 17	231.4 64	105.0 59	75.76 1	41.97 4	36.2 23	15.3 42	3.86 3	5.06 0	1.03 5	0.31 5	0.19 4	0.05 0
198 4	495.6 41	173.3 32	138.7 07	185.1 03	71.94 4	42.52 7	19.7 14	14.6 46	5.17 5	1.24 2	1.71 1	0.39 0	0.12 5	0.08 9
198 5	387.8 06	405.7 96	141.9 12	109.2 57	123.9 87	40.32 8	20.4 30	8.21 0	5.33 4	1.96 3	0.49 0	0.74 0	0.17 3	0.06 3
198 6	257.7 18	317.5 08	332.2 38	110.5 44	71.08 2	66.48 3	18.4 87	8.18 1	2.91 7	2.01 8	0.78 6	0.21 5	0.32 9	0.08 6
198 7	132.4 78	211.0 01	259.9 54	255.8 80	69.72 0	34.72 7	26.5 49	6.62 5	2.57 4	0.99 0	0.76 1	0.32 6	0.09 1	0.15 6
198 8	193.8 19	108.4 64	172.7 53	201.3 48	159.7 29	32.84 9	12.5 37	8.76 2	1.87 5	0.77 7	0.34 6	0.29 3	0.12 9	0.04 0
198 9	159.6 89	158.6 86	88.80 2	134.8 94	127.3 05	77.47 4	12.1 20	4.07 1	2.36 5	0.51 7	0.24 7	0.11 7	0.10 1	0.04 8
199 0	259.9 18	130.7 42	129.9 21	69.80 0	86.69 3	100.7 45	32.8 94	4.47 6	1.35 6	0.86 6	0.20 5	0.10 5	0.05 0	0.04 8
199 1	203.0 19	212.8 03	107.0 43	101.1 53	44.49 1	44.35 3	42.4 78	12.2 33	1.55 4	0.52 5	0.35 8	0.09 1	0.04 7	0.02 5
199 2	117.7 57	166.2 18	174.2 28	80.44 0	61.25 7	20.75 9	16.1 26	14.3 71	3.89 5	0.55 3	0.20 2	0.14 6	0.03 8	0.02 1
199 3	226.7 38	96.41 1	136.0 88	128.6 99	47.80 0	27.60 8	7.13 2	5.23 0	4.31 9	1.32 3	0.20 7	0.08 1	0.06 0	0.01 7
199 4	245.1 06	185.6 37	78.93 5	97.00 4	76.93 8	22.46 7	10.0 73	2.39 1	1.51 9	1.28 3	0.43 8	0.07 2	0.02 9	0.02 3

1995	132.429	200.676	151.987	59.175	62.339	42.826	10.756	4.166	0.904	0.606	0.531	0.194	0.032	0.014
1996	237.608	108.423	164.299	117.038	39.855	37.120	22.890	4.956	1.813	0.422	0.282	0.263	0.096	0.017
1997	106.767	194.537	88.770	129.740	81.650	24.653	20.123	10.676	2.161	0.828	0.191	0.135	0.128	0.050
1998	251.130	87.413	159.273	70.845	91.927	50.868	13.262	9.178	4.457	0.912	0.344	0.084	0.061	0.061
1999	236.632	205.608	71.568	126.699	49.782	54.380	24.865	5.604	3.457	1.619	0.330	0.129	0.032	0.025
2000	232.883	193.738	168.337	56.040	87.095	27.793	23.645	9.768	1.969	1.165	0.555	0.118	0.048	0.013
2001	255.761	190.668	158.619	129.830	38.344	48.720	12.393	9.331	3.410	0.657	0.391	0.193	0.043	0.018
2002	119.696	209.400	156.106	120.501	87.868	21.518	22.447	5.094	3.324	1.102	0.210	0.128	0.066	0.014
2003	219.384	97.999	171.442	121.905	83.704	51.493	10.835	10.058	2.028	1.211	0.387	0.076	0.048	0.025
2004	195.646	179.617	80.235	135.160	85.712	49.322	25.745	4.953	4.144	0.785	0.450	0.148	0.029	0.019
2005	145.666	160.181	147.058	63.551	95.829	50.610	23.922	11.641	2.014	1.576	0.288	0.168	0.056	0.011
2006	186.325	119.261	131.145	116.487	45.706	58.370	25.511	11.129	4.863	0.793	0.594	0.109	0.064	0.021
2007	174.269	152.550	97.643	104.054	84.220	28.459	29.665	11.958	4.634	1.898	0.303	0.227	0.042	0.025
2008	189.789	142.679	124.897	77.747	76.135	54.240	15.532	14.466	5.085	1.788	0.711	0.112	0.085	0.015
2009	248.856	155.386	116.816	99.818	57.945	58.635	32.204	8.211	6.839	2.286	0.783	0.315	0.050	0.038
2010	268.982	203.746	127.219	92.723	73.965	38.965	34.355	16.909	3.854	3.051	1.017	0.355	0.143	0.023
2011	194.858	220.224	166.813	101.223	69.102	50.858	24.118	19.057	8.529	1.930	1.508	0.517	0.179	0.074
2012	275.063	159.536	180.304	132.889	75.520	47.697	31.901	13.786	9.984	4.464	1.003	0.807	0.274	0.099
2013	244.444	225.203	130.617	143.414	98.925	52.083	29.907	18.351	7.336	5.304	2.330	0.538	0.423	0.149
2014	163.799	200.134	184.380	102.947	106.042	67.796	32.471	17.231	9.714	3.887	2.705	1.190	0.266	0.215
2015	261.573	134.107	163.856	146.292	76.557	73.843	43.335	19.149	9.345	5.217	2.008	1.368	0.569	0.129

2016	254.909	214.158	109.798	129.840	108.667	53.660	48.042	26.145	10.714	5.222	2.778	1.064	0.683	0.288
2017	193.333	208.702	175.337	87.162	96.436	76.170	34.843	29.060	14.668	5.975	2.763	1.449	0.522	0.335
2018	241.268	158.288	170.870	138.874	64.567	67.322	49.441	21.308	16.587	8.361	3.214	1.463	0.706	0.250
2019	211.211	197.534	129.595	135.317	102.895	44.727	42.896	30.067	12.113	9.499	4.565	1.735	0.722	0.333
2020	286.048	172.925	161.727	103.492	101.592	72.149	28.733	26.194	16.907	6.618	4.792	2.195	0.736	0.266

Table 9.13. Icelandic cod in Division Va. Catch (kt), average fishing mortality of age groups 5 to 10, recruitment to the fisheries at age 3 (millions), reference fishing biomass (B4+, kt), spawning stock biomass (kt) at spawning time and harvest ratio.

Year	Yield	F5-10	SSB	Reference biomass	Recruits	Harvest rate
1955	545.250	0.29	945.606	2364.920	151.953	0.23
1956	486.909	0.29	799.370	2089.070	152.745	0.23
1957	455.182	0.31	778.674	1884.730	170.595	0.24
1958	517.359	0.35	877.887	1870.080	220.765	0.28
1959	459.081	0.32	855.177	1830.880	289.046	0.25
1960	470.121	0.37	709.418	1754.340	154.344	0.27
1961	377.291	0.36	467.527	1496.830	192.937	0.25
1962	388.985	0.38	569.047	1492.540	128.939	0.26
1963	408.800	0.46	507.712	1315.430	177.450	0.31
1964	437.012	0.55	450.842	1218.590	203.868	0.36
1965	387.106	0.58	317.425	1021.840	216.288	0.38
1966	353.357	0.59	277.116	1030.970	229.085	0.34
1967	335.721	0.56	256.354	1102.400	320.029	0.30
1968	381.770	0.72	221.443	1222.260	171.783	0.31
1969	403.205	0.56	313.420	1324.760	247.312	0.30
1970	475.077	0.61	330.739	1335.770	180.359	0.36
1971	444.248	0.68	242.236	1096.990	188.459	0.40
1972	395.166	0.69	221.470	996.127	139.125	0.40
1973	369.205	0.71	245.002	842.839	272.792	0.44

1974	368.133	0.76	186.590	917.046	178.960	0.40
1975	364.754	0.81	167.820	894.333	260.851	0.41
1976	346.253	0.75	137.978	954.541	367.508	0.36
1977	340.086	0.60	197.978	1288.680	143.661	0.26
1978	329.602	0.48	211.687	1297.660	226.415	0.25
1979	366.462	0.45	303.616	1395.190	245.552	0.26
1980	432.237	0.49	356.565	1491.700	139.267	0.29
1981	465.032	0.67	259.370	1235.430	140.161	0.38
1982	380.068	0.74	163.691	966.227	131.917	0.39
1983	298.049	0.72	127.030	787.767	231.464	0.38
1984	282.022	0.65	138.131	908.167	138.707	0.31
1985	323.428	0.67	158.815	920.782	141.912	0.35
1986	364.797	0.78	191.950	851.574	332.238	0.43
1987	389.915	0.87	147.234	1032.790	259.954	0.38
1988	377.554	0.90	166.531	1034.360	172.753	0.37
1989	363.125	0.72	169.661	999.045	88.802	0.36
1990	335.316	0.70	208.898	839.118	129.921	0.40
1991	307.759	0.80	164.358	695.232	107.043	0.44
1992	264.834	0.84	151.895	549.320	174.228	0.48
1993	250.704	0.87	120.606	594.108	136.088	0.42
1994	178.138	0.63	156.424	575.623	78.935	0.31
1995	168.592	0.51	176.594	557.673	151.987	0.30
1996	180.701	0.51	158.476	672.544	164.299	0.27
1997	203.112	0.55	187.474	783.237	88.770	0.26
1998	243.987	0.65	198.497	721.633	159.273	0.34
1999	260.147	0.73	180.465	730.796	71.568	0.36
2000	235.092	0.73	170.831	595.599	168.337	0.39
2001	236.707	0.72	169.179	676.595	158.619	0.35
2002	209.535	0.63	196.911	716.179	156.106	0.29
2003	207.241	0.61	188.590	729.609	171.442	0.28

2004	228.330	0.62	192.702	782.534	80.235	0.29
2005	213.863	0.59	221.223	702.699	147.058	0.30
2006	197.200	0.58	212.261	669.925	131.145	0.29
2007	171.641	0.56	193.998	649.529	97.643	0.26
2008	147.663	0.45	242.836	666.780	124.897	0.22
2009	183.315	0.46	221.789	729.672	116.816	0.25
2010	170.018	0.39	250.713	780.062	127.219	0.22
2011	172.197	0.36	306.336	825.365	166.813	0.21
2012	196.188	0.35	340.311	942.236	180.304	0.21
2013	223.593	0.36	365.326	1070.900	130.617	0.21
2014	222.013	0.34	336.185	1091.410	184.380	0.20
2015	230.168	0.31	446.609	1182.890	163.856	0.19
2016	251.238	0.31	393.841	1259.230	109.798	0.20
2017	243.922	0.30	539.956	1205.810	175.337	0.20
2018	267.222	0.31	552.852	1288.310	170.870	0.21
2019	263.015	0.33	515.922	1247.570	129.595	0.21
2020	NA	NA	486.482	1207.663	161.727	NA
2021	NA	NA	NA	NA	141.579	NA
2022	NA	NA	NA	NA	191.744	NA

Table 9.14. Icelandic cod in Division Va. Inputs in the deterministic predictions.

Age	2020	2021	2022	2023	Variable
3	1.155	1.263	1.263	1.263	Catch weights
4	1.662	1.821	1.821	1.821	Catch weights
5	2.480	2.349	2.349	2.349	Catch weights
6	3.773	3.346	3.346	3.346	Catch weights
7	4.783	4.784	4.784	4.784	Catch weights
8	5.504	5.792	5.792	5.792	Catch weights
9	6.604	6.850	6.850	6.850	Catch weights
10	8.095	8.574	8.574	8.574	Catch weights
11	8.842	8.842	8.842	8.842	Catch weights

12	10.596	10.596	10.596	10.596	Catch weights
13	11.687	11.687	11.687	11.687	Catch weights
14	12.003	12.003	12.003	12.003	Catch weights
3	0.949	0.949	0.949	0.949	SSB weights
4	1.651	1.651	1.651	1.651	SSB weights
5	3.012	3.012	3.012	3.012	SSB weights
6	3.867	3.867	3.867	3.867	SSB weights
7	4.967	4.967	4.967	4.967	SSB weights
8	5.984	5.984	5.984	5.984	SSB weights
9	7.191	7.191	7.191	7.191	SSB weights
10	8.574	8.574	8.574	8.574	SSB weights
11	8.842	8.842	8.842	8.842	SSB weights
12	10.596	10.596	10.596	10.596	SSB weights
13	11.687	11.687	11.687	11.687	SSB weights
14	12.003	12.003	12.003	12.003	SSB weights
3	0.003	0.003	0.003	0.003	Maturity
4	0.036	0.036	0.036	0.036	Maturity
5	0.056	0.056	0.056	0.056	Maturity
6	0.273	0.273	0.273	0.273	Maturity
7	0.784	0.784	0.784	0.784	Maturity
8	0.897	0.897	0.897	0.897	Maturity
9	0.966	0.966	0.966	0.966	Maturity
10	1.000	1.000	1.000	1.000	Maturity
11	1.000	1.000	1.000	1.000	Maturity
12	1.000	1.000	1.000	1.000	Maturity
13	1.000	1.000	1.000	1.000	Maturity
14	1.000	1.000	1.000	1.000	Maturity
3	0.097	0.097	0.097	0.097	Selection
4	0.306	0.306	0.306	0.306	Selection
5	0.514	0.514	0.514	0.514	Selection

6	0.774	0.774	0.774	0.774	Selection
7	0.941	0.941	0.941	0.941	Selection
8	1.175	1.175	1.175	1.175	Selection
9	1.199	1.199	1.199	1.199	Selection
10	1.397	1.397	1.397	1.397	Selection
11	1.823	1.823	1.823	1.823	Selection
12	1.823	1.823	1.823	1.823	Selection
13	1.823	1.823	1.823	1.823	Selection
14	1.823	1.823	1.823	1.823	Selection
3	161.727	141.579	191.744	0.000	Stock numbers
4	103.492	NA	NA	NA	Stock numbers
5	101.592	NA	NA	NA	Stock numbers
6	72.149	NA	NA	NA	Stock numbers
7	28.733	NA	NA	NA	Stock numbers
8	26.194	NA	NA	NA	Stock numbers
9	16.907	NA	NA	NA	Stock numbers
10	6.618	NA	NA	NA	Stock numbers
11	4.792	NA	NA	NA	Stock numbers
12	2.195	NA	NA	NA	Stock numbers
13	0.736	NA	NA	NA	Stock numbers
14	0.266	NA	NA	NA	Stock numbers

Table 9.15. Icelandic cod in Division Va. Output of the deterministic predictions.

Year	B4+	Fmult	Fbar	SSB	Landings	2022 B4+	2022 SSB	SSB change	TAC change
2020	1207.663	NA	NA	NA	NA	NA	NA	NA	NA
2021	1210.903	0.000	0.00	582.191	0.000	1481.452	799.183	0.37	-1.00
NA	NA	0.179	0.06	565.390	54.789	1419.939	730.079	0.29	-0.80
NA	NA	0.209	0.07	562.645	63.611	1410.034	719.230	0.28	-0.77
NA	NA	0.239	0.08	559.915	72.346	1400.225	708.562	0.27	-0.73
NA	NA	0.268	0.09	557.202	80.997	1390.511	698.073	0.25	-0.70

NA	NA	0.298	0.10	554.503	89.563	1380.892	687.759	0.24	-0.67
NA	NA	0.328	0.11	551.819	98.047	1371.365	677.616	0.23	-0.64
NA	NA	0.358	0.12	549.151	106.449	1361.930	667.643	0.22	-0.61
NA	NA	0.388	0.13	546.498	114.770	1352.585	657.835	0.20	-0.58
NA	NA	0.417	0.14	543.860	123.011	1343.331	648.189	0.19	-0.55
NA	NA	0.447	0.15	541.236	131.172	1334.165	638.703	0.18	-0.52
NA	NA	0.477	0.16	538.628	139.256	1325.087	629.374	0.17	-0.49
NA	NA	0.507	0.17	536.034	147.262	1316.095	620.198	0.16	-0.46
NA	NA	0.537	0.18	533.455	155.191	1307.190	611.174	0.15	-0.43
NA	NA	0.566	0.19	530.890	163.045	1298.369	602.298	0.13	-0.40
NA	NA	0.596	0.20	528.339	170.824	1289.631	593.567	0.12	-0.37
NA	NA	0.626	0.21	525.803	178.530	1280.977	584.980	0.11	-0.35
NA	NA	0.656	0.22	523.281	186.162	1272.405	576.533	0.10	-0.32
NA	NA	0.686	0.23	520.774	193.722	1263.913	568.224	0.09	-0.29
NA	NA	0.716	0.24	518.280	201.211	1255.502	560.050	0.08	-0.26
NA	NA	0.745	0.25	515.800	208.630	1247.170	552.009	0.07	-0.24
NA	NA	0.775	0.26	513.334	215.978	1238.916	544.099	0.06	-0.21
NA	NA	0.805	0.27	510.882	223.258	1230.740	536.317	0.05	-0.18
NA	NA	0.835	0.28	508.444	230.469	1222.640	528.662	0.04	-0.16
NA	NA	0.865	0.29	506.019	237.613	1214.616	521.129	0.03	-0.13
NA	NA	0.894	0.30	503.608	244.691	1206.667	513.719	0.02	-0.10
NA	NA	0.924	0.31	501.210	251.702	1198.792	506.427	0.01	-0.08
NA	NA	0.954	0.32	498.825	258.648	1190.990	499.253	0.00	-0.05
NA	NA	0.984	0.33	496.454	265.530	1183.261	492.194	-0.01	-0.03
NA	NA	1.014	0.34	494.096	272.349	1175.603	485.249	-0.02	0.00
NA	NA	1.043	0.35	491.751	279.104	1168.016	478.414	-0.03	0.02
NA	NA	1.073	0.36	489.419	285.797	1160.498	471.689	-0.04	0.05
NA	NA	1.103	0.37	487.100	292.428	1153.051	465.070	-0.05	0.07
NA	NA	1.133	0.38	484.794	298.999	1145.671	458.557	-0.05	0.10
NA	NA	1.163	0.39	482.501	305.509	1138.360	452.148	-0.06	0.12

NA	NA	1.193	0.40	480.221	311.960	1131.115	445.840	-0.07	0.14
NA	NA	1.222	0.41	477.953	318.352	1123.937	439.633	-0.08	0.17
NA	NA	1.252	0.42	475.697	324.686	1116.824	433.523	-0.09	0.19
NA	NA	1.282	0.43	473.455	330.962	1109.776	427.510	-0.10	0.21
NA	NA	1.312	0.44	471.224	337.181	1102.792	421.592	-0.11	0.24
NA	NA	1.342	0.45	469.006	343.344	1095.871	415.766	-0.11	0.26
NA	NA	1.371	0.46	466.800	349.451	1089.014	410.033	-0.12	0.28

Table 9.16. Icelandic cod in Division Va - Alternative assessment (survey indices for age groups 1-14 included in the assessment). Catch (kt), average fishing mortality of age groups 5 to 10, recruitment to the fisheries at age 3 (millions), reference fishing biomass (B4+, kt), spawning stock biomass (kt) at spawning time and harvest ratio.

Year	Yield	F5-10	SSB	Reference biomass	Recruits	Harvest rate
1955	545.250	0.29	945.740	2365.090	151.953	0.23
1956	486.909	0.29	799.496	2089.220	152.745	0.23
1957	455.182	0.31	778.792	1884.870	170.595	0.24
1958	517.359	0.35	877.998	1870.200	220.763	0.28
1959	459.081	0.32	855.290	1831.010	289.038	0.25
1960	470.121	0.37	709.472	1754.390	154.347	0.27
1961	377.291	0.36	467.556	1496.870	192.939	0.25
1962	388.985	0.38	569.080	1492.570	128.944	0.26
1963	408.800	0.46	507.738	1315.460	177.453	0.31
1964	437.012	0.55	450.868	1218.620	203.866	0.36
1965	387.106	0.58	317.438	1021.850	216.288	0.38
1966	353.357	0.59	277.128	1030.980	229.084	0.34
1967	335.721	0.56	256.364	1102.420	320.026	0.30
1968	381.770	0.72	221.450	1222.270	171.781	0.31
1969	403.205	0.56	313.425	1324.760	247.307	0.30
1970	475.077	0.61	330.746	1335.770	180.356	0.36
1971	444.248	0.68	242.244	1096.990	188.456	0.40
1972	395.166	0.69	221.483	996.142	139.124	0.40
1973	369.205	0.71	245.011	842.847	272.788	0.44
1974	368.133	0.76	186.596	917.048	178.958	0.40

1975	364.754	0.81	167.824	894.335	260.850	0.41
1976	346.253	0.75	137.982	954.544	367.502	0.36
1977	340.086	0.60	197.983	1288.670	143.662	0.26
1978	329.602	0.48	211.690	1297.660	226.407	0.25
1979	366.462	0.45	303.616	1395.170	245.552	0.26
1980	432.237	0.49	356.577	1491.710	139.277	0.29
1981	465.032	0.67	259.367	1235.420	140.160	0.38
1982	380.068	0.74	163.687	966.228	131.907	0.39
1983	298.049	0.72	127.027	787.754	231.570	0.38
1984	282.022	0.65	138.132	908.306	138.700	0.31
1985	323.428	0.67	158.828	920.926	141.897	0.35
1986	364.797	0.78	191.973	851.658	332.386	0.43
1987	389.915	0.87	147.248	1033.040	260.165	0.38
1988	377.554	0.90	166.572	1034.900	172.796	0.36
1989	363.125	0.72	169.735	999.590	88.791	0.36
1990	335.316	0.70	208.936	839.261	129.951	0.40
1991	307.759	0.80	164.387	695.352	107.041	0.44
1992	264.834	0.84	151.914	549.378	174.284	0.48
1993	250.704	0.87	120.618	594.217	136.108	0.42
1994	178.138	0.63	156.442	575.717	78.918	0.31
1995	168.592	0.51	176.615	557.719	152.057	0.30
1996	180.701	0.51	158.494	672.673	164.379	0.27
1997	203.112	0.55	187.508	783.490	88.795	0.26
1998	243.987	0.65	198.551	721.894	159.375	0.34
1999	260.147	0.73	180.521	731.123	71.585	0.36
2000	235.092	0.73	170.883	595.844	168.426	0.39
2001	236.702	0.72	169.238	676.913	158.701	0.35
2002	209.544	0.63	196.988	716.524	156.175	0.29
2003	207.246	0.61	188.670	729.980	171.525	0.28
2004	228.342	0.62	192.787	782.923	80.271	0.29

2005	213.867	0.59	221.319	703.044	147.160	0.30
2006	197.202	0.58	212.356	670.294	131.284	0.29
2007	171.646	0.56	194.097	649.986	97.706	0.26
2008	147.676	0.45	243.019	667.316	124.954	0.22
2009	183.320	0.46	221.932	730.067	116.938	0.25
2010	170.025	0.39	250.884	780.632	127.565	0.22
2011	172.218	0.36	306.589	826.377	166.748	0.21
2012	196.171	0.35	340.697	943.245	180.181	0.21
2013	223.582	0.36	365.905	1071.770	131.038	0.21
2014	222.021	0.34	336.773	1092.820	185.631	0.20
2015	230.165	0.31	447.353	1186.120	165.100	0.19
2016	251.219	0.31	394.821	1264.860	110.675	0.20
2017	243.945	0.30	542.291	1213.500	175.665	0.20
2018	267.221	0.31	556.644	1297.770	170.129	0.21
2019	263.022	0.34	515.455	1212.000	129.961	0.22
2020	NA	NA	490.119	1176.540	161.943	NA
2021	NA	NA	NA	NA	141.679	NA
2022	NA	NA	NA	NA	192.375	NA