

Table 4.11a. Cod in Subarea 4, Division 7.d and Subdivision 20: SAM final run estimated stock and management metrics, together with the lower and upper bounds of the point-wise 95% confidence intervals. Estimated recruitment, total stock biomass (TSB), spawning stock biomass (SSB), total removals (including catches due to unaccounted mortality) and average fishing mortality for ages 2 to 4 (Fbar 2-4).

Year	Recruits age 1 (‘000)			TSB (tonnes)			SSB (tonnes)			Total removals (tonnes)			Fbar 2-4		
	Low	High		Low	High		Low	High		Low	High		Low	High	
1963	397633	289452	546246	464040	400658	537450	145016	114233	184094	117527	104415	132286	0.485	0.420	0.560
1964	650569	474239	892462	591847	507989	689548	156610	125894	194820	143937	130981	158174	0.526	0.462	0.599
1965	871808	637817	1191641	753551	652485	870270	191632	158680	231427	198302	177406	221658	0.581	0.511	0.660
1966	1059734	776140	1446950	902833	782622	1041508	212893	177118	255894	240635	215825	268296	0.586	0.518	0.663
1967	891641	652622	1218200	958527	839712	1094154	241337	201148	289556	286289	256401	319661	0.621	0.551	0.700
1968	448190	327485	613387	820370	734914	915764	254072	217826	296349	293004	266733	321864	0.659	0.584	0.744
1969	391338	284048	539153	680353	605813	764064	250569	212605	295312	224897	208535	242543	0.622	0.553	0.701
1970	1319269	963442	1806514	1065433	887950	1278391	261239	222613	306567	251116	221001	285336	0.662	0.591	0.742
1971	1740206	1265171	2393604	1205173	1021990	1421191	264919	226254	310193	351007	301510	408628	0.750	0.672	0.836
1972	431806	313383	594980	865561	768163	975308	235866	201568	276000	363903	318887	415272	0.809	0.725	0.904
1973	635677	461558	875483	692120	616246	777336	210206	185143	238663	260138	237319	285150	0.797	0.714	0.889
1974	632510	458498	872562	664050	588917	748768	225745	198174	257152	236425	211318	264515	0.759	0.681	0.847
1975	1092931	784945	1521759	749778	639961	878440	204016	177746	234169	248621	216227	285869	0.816	0.734	0.907
1976	755228	538030	1060107	604932	531872	688027	172409	148352	200367	249457	216267	287741	0.871	0.782	0.971
1977	1842843	1322444	2568027	905569	738565	1110335	146131	126087	169360	265761	217357	324945	0.826	0.742	0.919
1978	1122754	802406	1570995	1025074	857679	1225139	144837	128523	163222	359955	296496	436996	0.913	0.822	1.013
1979	1399884	1003940	1951983	956920	817673	1119879	143438	128208	160476	341959	292395	399925	0.855	0.770	0.948
1980	2254006	1607701	3160129	1147283	953899	1379873	156049	140130	173776	396662	327695	480143	0.930	0.841	1.028
1981	877285	627775	1225964	965339	837997	1112032	164850	149267	182060	397923	339324	466641	0.944	0.857	1.041
1982	1414554	1022443	1957042	1012802	852881	1202710	163662	147630	181435	384026	326016	452359	1.053	0.956	1.159
1983	784294	576545	1066903	802555	692379	930264	134944	121409	149988	321366	273873	377095	1.048	0.953	1.152
1984	1436937	1057232	1953013	815841	686234	969927	117444	105418	130843	278310	235683	328647	0.983	0.894	1.081
1985	350975	255833	481500	553634	489787	625804	116664	104638	130072	241644	209091	279266	0.947	0.860	1.043
1986	1597931	1178693	2166285	736905	605699	896531	109218	99003	120487	229053	190916	274807	1.001	0.911	1.099
1987	609972	451901	823335	696410	599225	809358	111058	100317	122949	258940	218085	307448	0.980	0.892	1.077
1988	421805	312043	570175	517269	454068	589267	110518	101316	120555	207086	183737	233403	1.004	0.914	1.103
1989	733346	540067	995795	516439	437057	610239	102521	93470	112448	180014	154619	209580	1.021	0.929	1.123
1990	294268	218401	396489	354513	312008	402809	89916	81462	99247	139147	121446	159429	0.952	0.862	1.052
1991	341888	254386	459490	326647	284112	375551	88679	79620	98769	118871	105435	134019	0.940	0.848	1.041
1992	780266	580038	1049612	502696	413526	611094	85356	76286	95505	141675	119081	168554	0.932	0.834	1.043
1993	395474	295868	528613	396110	333909	469897	87538	74114	103394	146695	119526	180039	0.940	0.831	1.064
1994	951238	700253	1292182	505640	410394	622991	94324	79183	112360	151362	121129	189142	0.953	0.841	1.081
1995	544657	404465	733440	542491	447502	657642	108795	91139	129872	187661	149229	235991	0.994	0.876	1.127
1996	350372	261637	469202	411994	345997	490579	109556	91857	130666	154087	125089	189807	0.995	0.877	1.128
1997	1072352	785294	1464342	612371	485724	772039	94290	79441	111916	151543	119623	191981	0.975	0.861	1.103
1998	112966	83595	152657	318707	265796	382151	94704	79340	113043	134147	107673	167130	1.005	0.889	1.135
1999	227641	170628	303702	215669	181865	255756	80941	67247	97423	91396	74712	111804	1.058	0.935	1.196
2000	416935	312638	556026	268215	220427	326362	60530	50558	72469	78576	63335	97485	1.052	0.930	1.190
2001	152852	114297	204413	188549	159153	223374	58733	49404	69825	66984	54661	82084	0.977	0.864	1.106
2002	229713	172403	306073	160870	135118	191530	53225	44761	63289	52691	43309	64105	0.924	0.813	1.051
2003	113961	85151	152518	135520	115157	159483	55002	46209	65469	49906	40801	61042	0.908	0.798	1.033
2004	193972	147609	254899	118502	100514	139709	44228	37218	52558	36264	29791	44144	0.861	0.755	0.982
2005	154826	116268	206172	136714	117412	159190	47151	40551	54825	37637	31205	45395	0.800	0.697	0.917
2006	354524	271669	462648	145296	122225	172722	43808	38428	49943	31533	28024	35481	0.737	0.656	0.827
2007	168447	129247	219536	195025	171578	221675	75783	67081	85614	52678	46114	60176	0.690	0.612	0.778
2008	190527	146093	248477	202428	177161	231300	83490	74002	94195	52082	47484	57125	0.661	0.581	0.752
2009	183333	140260	239634	210805	184284	241143	89598	78440	102343	54383	49311	59976	0.658	0.575	0.754
2010	270365	206170	354548	219341	188004	255902	88837	75725	104219	48398	44113	53098	0.582	0.499	0.679
2011	131827	100694	172587	203266	174103	237313	95767	78893	116250	44050	39960	48560	0.482	0.406	0.572
2012	179746	137773	234505	177250	150884	208223	93437	75738	115272	39944	37102	43003	0.448	0.375	0.536
2013	223389	171141	291588	224712	190720	264764	99704	80722	123150	41532	38327	45004	0.443	0.373	0.527
2014	310228	237456	405302	275297	232795	325558	105637	85875	129946	45608	41741	49834	0.450	0.383	0.529
2015	150660	115523	196482	244444	208493	286593	118237	94999	147159	50896	46443	55776	0.445	0.379	0.523
2016	114185	87473	149055	213365	182636	249265	116859	94287	144835	51225	47739	54966	0.446	0.379	0.525
2017	320063	234487	436870	218919	183196	261608	106745	84593	134697	47746	44547	51175	0.502	0.431	0.585
2018	77677	53035	113770	176060	144495	214522	101582	77818	132603	50537	45608	56000	0.632	0.529	0.755
2019	133583	57128	312360				81224	57451	114834						