WHAM output tables

Table 1. Parameter estimates, standard errors, and confidence intervals. Rounded to 3 decimal places.

	Estimate	Std. Error	95% CI lower	95% CI upper
Mean Recruitment	399214.722	8.319109e+04	265355.046	6.006006e+05
NAA σ (age 1)	1.117	1.140000e-01	0.915	1.364000e+00
NAA σ (age 2-10+)	0.299	2.100000e-02	0.261	3.420000e-01
NAA residual AR1 ρ age	0.000	–	–	–
NAA residual AR1 ρ year	0.000	–	–	–
Index 1 fully selected q	0.003	0.000000e+00	0.002	4.000000e-03
Index 2 fully selected q	0.000	0.000000e+00	0.000	0.000000e+00
Index 3 fully selected q	0.000	0.000000e+00	0.000	0.000000e+00
Block 1: a_{50}	2.005	8.200000e-02	1.849	2.172000e+00
Block 1: 1/slope (increasing)	0.627	3.700000e-02	0.557	7.040000e-01
Block 2: Selectivity for age 1	1.000	–	–	–
Block 2: Selectivity for age 2	1.000	–	–	–
Block 2: Selectivity for age 3	1.000	–	–	–
Block 2: Selectivity for age 4	1.000	–	–	–
Block 2: Selectivity for age 5	1.000	–	–	–
Block 2: Selectivity for age 6	1.000	–	–	–
Block 2: Selectivity for age 7	1.000	–	–	–
Block 2: Selectivity for age 8	1.000	–	–	–
Block 2: Selectivity for age 9	1.000	–	–	–
Block 2: Selectivity for age 10+	1.000	–	–	–
Block 3: Selectivity for age 1	0.000	–	–	–
Block 3: Selectivity for age 2	0.000	–	–	–

Table 1. Parameter estimates, standard errors, and confidence intervals. Rounded to 3 decimal places. *(continued)*

	Estimate	Std. Error	95% CI lower	95% CI upper
Block 3: Selectivity for age 3	1.000	–	–	–
Block 3: Selectivity for age 4	0.617	1.000000e-01	0.413	7.860000e-01
Block 3: Selectivity for age 5	0.373	1.200000e-01	0.179	6.190000e-01
Block 3: Selectivity for age 6	0.375	1.600000e-01	0.136	6.950000e-01
Block 3: Selectivity for age 7	0.000	–	–	–
Block 3: Selectivity for age 8	0.000	–	–	–
Block 3: Selectivity for age 9	0.000	–	–	–
Block 3: Selectivity for age 10+	0.000	–	–	–
Block 4: Selectivity for age 1	0.000	–	–	–
Block 4: Selectivity for age 2	0.000	–	–	–
Block 4: Selectivity for age 3	1.000	–	–	–
Block 4: Selectivity for age 4	0.630	8.800000e-02	0.449	7.800000e-01
Block 4: Selectivity for age 5	0.660	1.040000e-01	0.438	8.280000e-01
Block 4: Selectivity for age 6	0.639	1.120000e-01	0.406	8.210000e-01
Block 4: Selectivity for age 7	0.000	–	–	–
Block 4: Selectivity for age 8	0.000	–	–	–
Block 4: Selectivity for age 9	0.000	–	–	–
Block 4: Selectivity for age 10+	0.000	–	–	–
Fleet 1 age comp, Dirichlet-multinomial: dispersion (ϕ)	9484268.505	3.349731e+08	0.000	1.097579e+37
Index 2 age comp, Dirichlet-multinomial: dispersion (ϕ)	23.395	8.726000e+00	11.263	4.859500e+01
Index 3 age comp, Dirichlet-multinomial: dispersion (ϕ)	10.893	1.827000e+00	7.842	1.513100e+01

Table 2. Abundance at age (1000s).

	1	2	3	4	5	6	7	8	9	10+
1968	5979017	995054	531558	229619	85777	48963	26480	15334	82563	1092
1969	551678	3663604	1212919	393649	100332	49741	32811	20311	10432	59904
1970	3995220	543961	2855469	827502	201602	58478	33168	24042	15558	47027
1971	1043566	1952706	559482	2008597	615882	125106	34776	21116	14909	41129
1972	791880	684532	1046059	576781	1262354	288541	70186	18438	12232	30334
1973	1366089	942307	590724	550336	401208	496035	122796	35012	9578	20916
1974	1091021	815052	609209	225311	285308	204082	229172	55890	14665	12385
1975	2467835	1145456	286505	221250	100263	131537	97546	92739	23538	10571
1976	199452	1060215	537798	131834	85224	42323	61283	44222	35314	14034
1977	59190	165106	391642	166386	38619	25660	14160	21887	14328	15423
1978	68804	33523	86758	175933	79001	26118	14632	7793	15304	22247
1979	179085	76562	19299	47103	102442	57548	21584	9993	5713	24688
1980	47941	131552	37808	15268	35263	69447	33566	13221	6608	18541
1981	424923	38579	79484	20591	12345	29611	48083	20500	8924	14703
1982	510696	142584	17588	56157	10115	10312	22241	41888	14076	19867
1983	2565469	382507	80127	11620	33769	5837	5964	16263	29562	25717
1984	71356	981195	291324	41821	8025	26317	3800	3897	12424	69809
1985	641225	58767	993260	186897	23514	5374	18884	2517	2593	52611
1986	153109	305627	58422	747013	137054	14899	3546	13523	1591	32978
1987	140901	122875	128734	45337	608811	91585	10502	2391	9012	20570
1988	448606	106766	60006	59124	31403	425491	64201	6716	1542	18063
1989	306887	266652	78940	34234	35954	14241	437353	28492	3795	10750
1990	134168	290566	237192	41377	26308	23579	8487	256336	14954	7890
1991	117831	109249	268158	118134	23807	15173	13826	4889	124846	10425
1992	146221	112156	55924	159935	81289	13318	8084	8134	2936	70833
1993	97184	102125	71309	37762	114223	50286	8276	4662	5516	36682
1994	265039	47554	103660	73894	23168	75167	25058	4435	2535	16059
1995	281436	159901	22911	75388	51090	13879	47406	14059	2339	7594
1996	186056	180215	107139	12143	51249	38032	8673	28042	7638	4908
1997	222370	143118	99227	48689	6368	25577	20509	4765	14658	5638
1998	75846	183198	82045	55322	21314	3267	13206	11281	2260	7696

Table 2. Abundance at age (1000s). *(continued)*

	1	2	3	4	5	6	7	8	9	10+
1999	112088	67510	109607	51097	27303	9426	1517	6039	4979	4061
2000	886235	121898	49311	57026	21767	11201	3925	703	2535	3472
2001	175094	553920	107653	35543	36381	11469	5755	2131	406	2953
2002	229799	148562	637366	56106	19859	20781	6373	2885	1133	1737
2003	263344	158721	108868	432509	34779	11585	11561	3591	1510	1502
2004	647219	298789	72831	56229	253323	17183	5709	5460	1923	1460
2005	174696	437352	174900	35782	24101	127020	6365	2117	1924	1247
2006	327558	120578	324606	82988	14824	9775	48588	2304	781	1145
2007	78658	211859	83254	133930	23253	4174	2738	12323	630	524
2008	250447	71762	140853	29608	38837	5844	1190	790	3371	334
2009	254736	172971	36102	57743	8605	11381	1587	343	228	1050
2010	65841	119528	56716	7813	14714	1663	2303	279	61	225
2011	117851	24536	31886	8380	955	1951	179	252	29	30
2012	60365	112999	7641	8741	1862	218	399	39	55	13
2013	57507	51614	40871	1967	2315	445	51	93	9	16
2014	115312	36550	28237	10030	475	470	98	12	21	6
2015	195668	76136	14135	9970	3042	142	123	26	3	7
2016	337380	113496	26891	6016	4025	1215	51	44	9	4
2017	31373	263211	49496	10986	2604	1739	472	20	17	5
2018	95900	18732	133348	26265	4956	1004	687	185	8	9
2019	63601	75944	15232	50666	7189	1809	371	252	69	7
2020	57384	37690	52325	7766	17066	2408	645	137	93	28
2021	54073	46035	19689	14814	2417	3558	608	167	36	32
2022	302868	63703	19613	4873	2874	513	841	144	39	16

Table 3. Total fishing mortality at age.

	1	2	3	4	5	6	7	8	9	10+
1968	0.028	0.083	0.139	0.161	0.166	0.167	0.167	0.167	0.167	0.167
1969	0.027	0.080	0.133	0.154	0.159	0.160	0.161	0.161	0.161	0.161
1970	0.040	0.119	0.199	0.230	0.237	0.239	0.239	0.239	0.239	0.239

Table 3. Total fishing mortality at age. *(continued)*

	1	2	3	4	5	6	7	8	9	10+
1971	0.060	0.180	0.299	0.346	0.358	0.360	0.360	0.361	0.361	0.361
1972	0.067	0.200	0.333	0.385	0.398	0.401	0.401	0.401	0.401	0.401
1973	0.106	0.315	0.526	0.608	0.628	0.632	0.633	0.633	0.633	0.633
1974	0.118	0.350	0.584	0.675	0.697	0.702	0.703	0.703	0.703	0.703
1975	0.130	0.386	0.643	0.744	0.769	0.774	0.775	0.775	0.775	0.775
1976	0.160	0.475	0.793	0.917	0.947	0.953	0.954	0.955	0.955	0.955
1977	0.066	0.196	0.326	0.377	0.389	0.392	0.393	0.393	0.393	0.393
1978	0.027	0.080	0.133	0.154	0.159	0.160	0.160	0.160	0.160	0.160
1979	0.039	0.115	0.191	0.221	0.228	0.230	0.230	0.230	0.230	0.230
1980	0.032	0.094	0.156	0.181	0.187	0.188	0.188	0.188	0.188	0.188
1981	0.039	0.116	0.193	0.224	0.231	0.232	0.233	0.233	0.233	0.233
1982	0.035	0.103	0.171	0.198	0.205	0.206	0.206	0.206	0.206	0.206
1983	0.028	0.083	0.139	0.161	0.166	0.167	0.167	0.167	0.167	0.167
1984	0.025	0.074	0.124	0.143	0.148	0.149	0.149	0.149	0.149	0.149
1985	0.034	0.102	0.170	0.197	0.203	0.204	0.205	0.205	0.205	0.205
1986	0.032	0.095	0.159	0.184	0.190	0.191	0.192	0.192	0.192	0.192
1987	0.042	0.126	0.210	0.242	0.250	0.252	0.252	0.253	0.253	0.253
1988	0.052	0.155	0.258	0.299	0.309	0.311	0.311	0.311	0.311	0.311
1989	0.041	0.121	0.202	0.233	0.241	0.242	0.243	0.243	0.243	0.243
1990	0.062	0.185	0.309	0.358	0.369	0.372	0.372	0.372	0.372	0.372
1991	0.055	0.163	0.272	0.315	0.325	0.328	0.328	0.328	0.328	0.328
1992	0.043	0.129	0.215	0.248	0.256	0.258	0.258	0.258	0.258	0.259
1993	0.047	0.140	0.234	0.271	0.280	0.282	0.282	0.282	0.282	0.282
1994	0.056	0.168	0.280	0.324	0.334	0.337	0.337	0.337	0.337	0.337
1995	0.042	0.125	0.208	0.241	0.249	0.251	0.251	0.251	0.251	0.251
1996	0.067	0.199	0.332	0.384	0.397	0.399	0.400	0.400	0.400	0.400
1997	0.076	0.225	0.375	0.434	0.448	0.451	0.452	0.452	0.452	0.452
1998	0.079	0.235	0.392	0.453	0.468	0.471	0.472	0.472	0.472	0.472
1999	0.084	0.251	0.419	0.484	0.500	0.503	0.504	0.504	0.504	0.504
2000	0.051	0.152	0.254	0.294	0.303	0.305	0.306	0.306	0.306	0.306
2001	0.057	0.169	0.282	0.326	0.337	0.339	0.339	0.339	0.339	0.339

Table 3. Total fishing mortality at age. *(continued)*

	1	2	3	4	5	6	7	8	9	10+
2002	0.057	0.169	0.283	0.327	0.337	0.340	0.340	0.340	0.340	0.340
2003	0.072	0.214	0.357	0.413	0.426	0.429	0.430	0.430	0.430	0.430
2004	0.121	0.359	0.598	0.691	0.714	0.719	0.720	0.720	0.720	0.720
2005	0.121	0.360	0.600	0.694	0.716	0.721	0.722	0.722	0.723	0.723
2006	0.172	0.510	0.850	0.983	1.016	1.022	1.024	1.024	1.024	1.024
2007	0.164	0.487	0.812	0.939	0.970	0.976	0.978	0.978	0.978	0.978
2008	0.165	0.491	0.818	0.947	0.978	0.984	0.986	0.986	0.986	0.986
2009	0.248	0.736	1.227	1.420	1.466	1.476	1.478	1.478	1.479	1.479
2010	0.336	1.000	1.667	1.928	1.992	2.005	2.008	2.008	2.008	2.008
2011	0.212	0.631	1.052	1.217	1.257	1.266	1.267	1.268	1.268	1.268
2012	0.200	0.595	0.992	1.147	1.185	1.193	1.194	1.194	1.195	1.195
2013	0.208	0.618	1.030	1.192	1.231	1.239	1.241	1.241	1.241	1.241
2014	0.180	0.534	0.891	1.031	1.064	1.072	1.073	1.073	1.073	1.073
2015	0.131	0.389	0.648	0.750	0.775	0.780	0.781	0.781	0.781	0.781
2016	0.114	0.339	0.566	0.655	0.676	0.681	0.681	0.682	0.682	0.682
2017	0.111	0.330	0.551	0.637	0.658	0.662	0.663	0.663	0.663	0.663
2018	0.121	0.359	0.598	0.692	0.715	0.720	0.721	0.721	0.721	0.721
2019	0.122	0.363	0.605	0.700	0.723	0.728	0.728	0.729	0.729	0.729
2020	0.182	0.540	0.900	1.041	1.075	1.082	1.084	1.084	1.084	1.084
2021	0.202	0.602	1.003	1.161	1.199	1.207	1.208	1.209	1.209	1.209
2022	0.029	0.086	0.143	0.165	0.170	0.172	0.172	0.172	0.172	0.172