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
B-H a	13.181	9.339	3.287	52.850
B-H b	0.000	0.000	0.000	0.000
NAA σ (age 1)	1.130	0.115	0.925	1.380
NAA residual AR1 ρ year	0.000	—	—	—
Index 1 fully selected q	0.003	0.000	0.002	0.004
Index 2 fully selected q	0.000	0.000	0.000	0.000
Index 3 fully selected q	0.000	0.000	0.000	0.000
Block 1: Selectivity for age 1	0.108	0.015	0.081	0.142
Block 1: Selectivity for age 2	0.340	0.045	0.259	0.432
Block 1: Selectivity for age 3	0.563	0.070	0.424	0.692
Block 1: Selectivity for age 4	0.608	0.076	0.453	0.743
Block 1: Selectivity for age 5	1.000	0.000	0.000	1.000
Block 1: Selectivity for age 6	1.000	—	—	—
Block 1: Selectivity for age 7	1.000	—	—	—
Block 1: Selectivity for age 8	1.000	—	—	—
Block 1: Selectivity for age 9	1.000	—	—	—
Block 1: Selectivity for age 10+	1.000	—	—	—
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	—	—	—

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 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	–	–	–
Block 3: Selectivity for age 3	1.000	–	–	–
Block 3: Selectivity for age 4	0.383	0.167	0.134	0.713
Block 3: Selectivity for age 5	0.185	0.084	0.071	0.403
Block 3: Selectivity for age 6	0.255	0.090	0.119	0.465
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	0.673	0.180	0.293	0.911
Block 4: Selectivity for age 5	0.464	0.120	0.252	0.690
Block 4: Selectivity for age 6	0.499	0.100	0.313	0.685
Block 4: Selectivity for age 7	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 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, logistic-normal: σ	31.331	1.091	29.264	33.544
Index 2 age comp, logistic-normal: σ	37.904	4.880	29.452	48.783
Index 3 age comp, logistic-normal: σ	35.221	3.109	29.626	41.872

Table 2. Abundance at age (1000s).

	1	2	3	4	5	6	7	8	9	10+
1968	5353003	1787018	286362	75238	42762	37224	29394	10718	81719	736
1969	2028640	4261229	1338809	202444	52568	26971	23478	18539	6760	52006
1970	2533166	1621393	3233259	966561	144692	34417	17658	15371	12138	38474
1971	779203	2006006	1194843	2224217	655719	86939	20680	10610	9236	30411
1972	611930	608203	1412360	762235	1390871	344561	45684	10867	5575	20833
1973	695734	479668	433988	921175	488188	760205	188326	24969	5939	14434
1974	1020744	535119	322379	256373	530148	223770	348454	86323	11445	9338
1975	1073723	778183	349735	181841	140363	223842	94482	147126	36448	8775
1976	150898	799199	471530	174069	86972	47448	75667	31938	49734	15287
1977	41267	107436	420845	186072	64794	19461	10617	16932	7147	14549
1978	19994	31977	73920	258445	111670	31820	9557	5214	8315	10655
1979	80286	16063	24659	54817	190143	76678	21849	6563	3580	13026
1980	25869	64350	12297	18068	39809	127799	51537	14685	4411	11161
1981	98325	20790	49686	9138	13322	27434	88072	35516	10120	10731
1982	285813	78394	15653	35413	6441	8525	17556	56360	22728	13344
1983	2233399	227010	58317	10937	24432	3979	5266	10845	34815	22283
1984	66959	1774220	168968	40785	7553	15117	2462	3259	6710	35329
1985	133776	53675	1358810	123881	29639	5082	10172	1657	2193	28287
1986	90841	106332	40023	953115	85826	18436	3161	6327	1030	18958
1987	80850	72153	79107	27969	657665	53030	11391	1953	3909	12351
1988	337545	64119	53418	54837	19132	400575	32300	6938	1190	9904
1989	583314	264362	45629	34685	34952	10374	217209	17514	3762	6015
1990	124016	454044	184507	28690	21353	17900	5313	111239	8970	5007
1991	262821	93898	290369	100400	15110	8458	7090	2104	44062	5536
1992	157868	201211	62189	167420	56287	6634	3713	3113	924	21775
1993	47983	123233	141703	39690	104743	29600	3489	1953	1637	11937
1994	132053	37667	88339	93127	25630	58028	16399	1933	1082	7520
1995	49269	102159	25784	53793	55381	12399	28072	7933	935	4161
1996	288571	38514	72266	16577	33922	29507	6606	14957	4227	2715
1997	96698	216815	24039	37775	8360	12511	10882	2436	5516	2560
1998	42550	71315	127610	11403	17153	2594	3883	3377	756	2506

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

	1	2	3	4	5	6	7	8	9	10+
1999	94725	30912	40025	55953	4756	4629	700	1048	911	880
2000	1631571	58498	10385	7511	9333	284	276	42	63	107
2001	146714	1235521	37428	5655	3959	3702	113	110	17	67
2002	114218	114809	876920	24197	3588	2130	1992	61	59	45
2003	324372	88906	80129	551388	14897	1837	1091	1020	31	53
2004	606962	248752	59197	46609	312079	6643	819	487	455	38
2005	225266	457467	156806	31454	23924	118492	2522	311	185	187
2006	538763	165618	266616	73181	14034	7213	35725	760	94	112
2007	120804	375662	81647	94341	24214	2587	1330	6586	140	38
2008	210673	87214	206700	34646	37983	6165	659	339	1677	45
2009	88745	154749	50684	96010	15379	11356	1843	197	101	515
2010	53247	59767	68362	14959	26115	2054	1516	246	26	82
2011	133615	31963	18358	11063	2126	1199	94	70	11	5
2012	90178	85622	12068	4179	2273	179	101	8	6	1
2013	72233	59214	34919	3121	986	240	19	11	1	1
2014	76661	47843	24817	9447	773	113	27	2	1	0
2015	150829	52242	21937	7790	2746	115	17	4	0	0
2016	260101	105348	25893	7832	2602	514	22	3	1	0
2017	33244	187921	58104	11031	3167	667	132	6	1	0
2018	125864	23940	102579	24334	4379	788	166	33	1	0
2019	76792	89963	12763	41315	9260	1016	183	39	8	0
2020	88690	56312	52004	5876	18166	2726	299	54	11	2
2021	92558	63759	30573	21585	2310	4447	667	73	13	3
2022	232477	68517	37972	14788	10010	742	1429	214	24	5

Table 3. Total fishing mortality at age.

	1	2	3	4	5	6	7	8	9	10+
1968	0.028	0.089	0.147	0.159	0.261	0.261	0.261	0.261	0.261	0.261
1969	0.024	0.076	0.126	0.136	0.224	0.224	0.224	0.224	0.224	0.224
1970	0.033	0.105	0.174	0.188	0.309	0.309	0.309	0.309	0.309	0.309

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

	1	2	3	4	5	6	7	8	9	10+
1971	0.048	0.151	0.250	0.269	0.443	0.443	0.443	0.443	0.443	0.443
1972	0.044	0.137	0.227	0.246	0.404	0.404	0.404	0.404	0.404	0.404
1973	0.062	0.197	0.326	0.352	0.580	0.580	0.580	0.580	0.580	0.580
1974	0.071	0.225	0.373	0.402	0.662	0.662	0.662	0.662	0.662	0.662
1975	0.095	0.301	0.498	0.538	0.885	0.885	0.885	0.885	0.885	0.885
1976	0.140	0.441	0.730	0.788	1.297	1.297	1.297	1.297	1.297	1.297
1977	0.055	0.174	0.288	0.311	0.511	0.511	0.511	0.511	0.511	0.511
1978	0.019	0.060	0.099	0.107	0.176	0.176	0.176	0.176	0.176	0.176
1979	0.021	0.067	0.111	0.120	0.197	0.197	0.197	0.197	0.197	0.197
1980	0.019	0.059	0.097	0.105	0.172	0.172	0.172	0.172	0.172	0.172
1981	0.027	0.084	0.139	0.150	0.246	0.246	0.246	0.246	0.246	0.246
1982	0.030	0.096	0.159	0.171	0.282	0.282	0.282	0.282	0.282	0.282
1983	0.030	0.095	0.158	0.170	0.280	0.280	0.280	0.280	0.280	0.280
1984	0.021	0.067	0.110	0.119	0.196	0.196	0.196	0.196	0.196	0.196
1985	0.030	0.094	0.155	0.167	0.275	0.275	0.275	0.275	0.275	0.275
1986	0.030	0.096	0.158	0.171	0.281	0.281	0.281	0.281	0.281	0.281
1987	0.032	0.101	0.166	0.180	0.296	0.296	0.296	0.296	0.296	0.296
1988	0.044	0.140	0.232	0.250	0.412	0.412	0.412	0.412	0.412	0.412
1989	0.051	0.160	0.264	0.285	0.469	0.469	0.469	0.469	0.469	0.469
1990	0.078	0.247	0.409	0.441	0.726	0.726	0.726	0.726	0.726	0.726
1991	0.067	0.212	0.351	0.379	0.623	0.623	0.623	0.623	0.623	0.623
1992	0.048	0.151	0.249	0.269	0.443	0.443	0.443	0.443	0.443	0.443
1993	0.042	0.133	0.220	0.237	0.391	0.391	0.391	0.391	0.391	0.391
1994	0.057	0.179	0.296	0.320	0.526	0.526	0.526	0.526	0.526	0.526
1995	0.046	0.146	0.242	0.261	0.430	0.430	0.430	0.430	0.430	0.430
1996	0.086	0.271	0.449	0.485	0.797	0.797	0.797	0.797	0.797	0.797
1997	0.104	0.330	0.546	0.589	0.970	0.970	0.970	0.970	0.970	0.970
1998	0.120	0.378	0.624	0.674	1.110	1.110	1.110	1.110	1.110	1.110
1999	0.282	0.891	1.473	1.591	2.618	2.618	2.618	2.618	2.618	2.618
2000	0.078	0.247	0.408	0.440	0.725	0.725	0.725	0.725	0.725	0.725
2001	0.045	0.143	0.236	0.255	0.420	0.420	0.420	0.420	0.420	0.420

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

	1	2	3	4	5	6	7	8	9	10+
2002	0.051	0.160	0.264	0.285	0.469	0.469	0.469	0.469	0.469	0.469
2003	0.065	0.207	0.342	0.369	0.608	0.608	0.608	0.608	0.608	0.608
2004	0.083	0.261	0.432	0.467	0.768	0.768	0.768	0.768	0.768	0.768
2005	0.108	0.340	0.562	0.607	0.999	0.999	0.999	0.999	0.999	0.999
2006	0.161	0.507	0.839	0.906	1.491	1.491	1.491	1.491	1.491	1.491
2007	0.126	0.397	0.657	0.710	1.168	1.168	1.168	1.168	1.168	1.168
2008	0.109	0.343	0.567	0.612	1.007	1.007	1.007	1.007	1.007	1.007
2009	0.195	0.617	1.020	1.102	1.813	1.813	1.813	1.813	1.813	1.813
2010	0.310	0.980	1.621	1.751	2.881	2.881	2.881	2.881	2.881	2.881
2011	0.245	0.774	1.280	1.382	2.275	2.275	2.275	2.275	2.275	2.275
2012	0.221	0.697	1.153	1.245	2.048	2.048	2.048	2.048	2.048	2.048
2013	0.212	0.670	1.107	1.196	1.968	1.968	1.968	1.968	1.968	1.968
2014	0.184	0.580	0.959	1.035	1.704	1.704	1.704	1.704	1.704	1.704
2015	0.159	0.502	0.830	0.896	1.475	1.475	1.475	1.475	1.475	1.475
2016	0.125	0.395	0.653	0.706	1.161	1.161	1.161	1.161	1.161	1.161
2017	0.128	0.405	0.670	0.724	1.191	1.191	1.191	1.191	1.191	1.191
2018	0.136	0.429	0.709	0.766	1.261	1.261	1.261	1.261	1.261	1.261
2019	0.110	0.348	0.576	0.622	1.023	1.023	1.023	1.023	1.023	1.023
2020	0.130	0.411	0.679	0.734	1.207	1.207	1.207	1.207	1.207	1.207
2021	0.101	0.318	0.526	0.568	0.935	0.935	0.935	0.935	0.935	0.935
2022	0.019	0.059	0.097	0.105	0.172	0.172	0.172	0.172	0.172	0.172