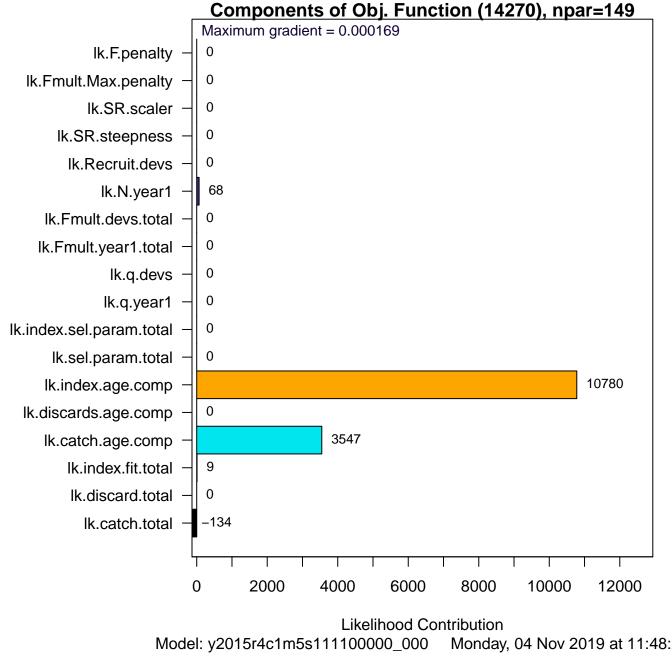
File = y2015r4c1m5s111100000_000.dat

ASAP3 run on Monday, 04 Nov 2019 at 11:48:29

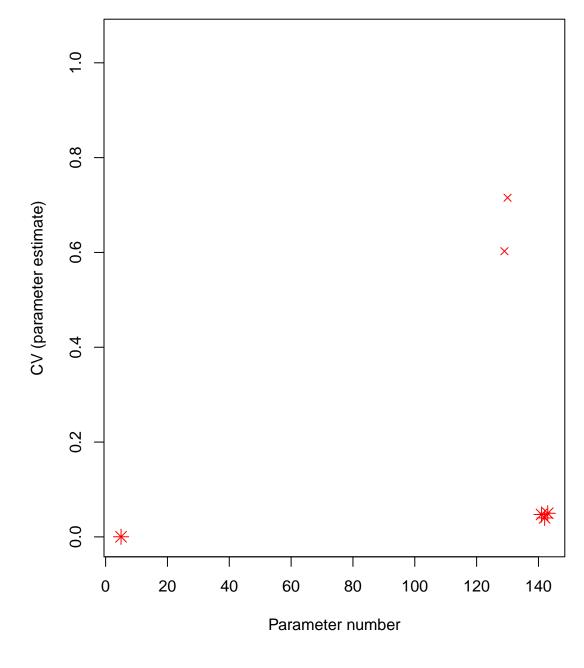
chris.legault\Documents\Working\ICES-WKFORBIAS 2019\WhiteHake\Rose\v

ASAPplots version = 0.2.14

npar = 149, maximum gradient = 0.000169003



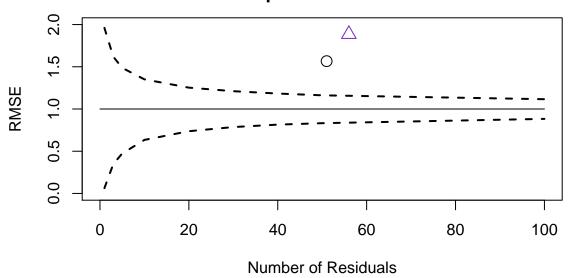




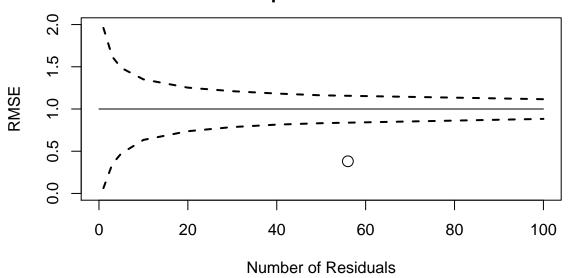
Root Mean Square Error computed from Standardized Residuals

Component	# resids	RMSE
catch.tot	56	0.381
discard.tot	0	0
ind01	51	1.57
ind02	56	1.89
ind.total	107	1.74
N.year1	8	0.819
Fmult.year1	0	0
Fmult.devs.total	0	0
recruit.devs	0	0
fleet.sel.params	0	0
index.sel.params	0	0
q.year1	0	0
q.devs	0	0
SR.steepness	0	0
SR.scaler	0	0

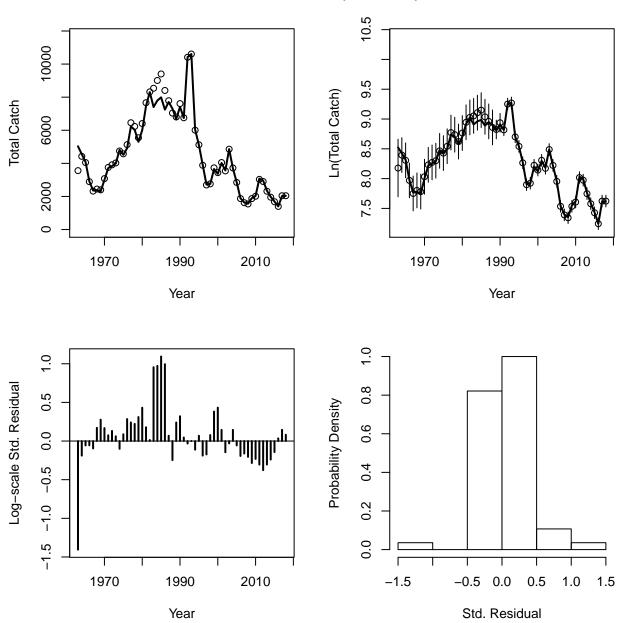
Root Mean Square Error for Indices

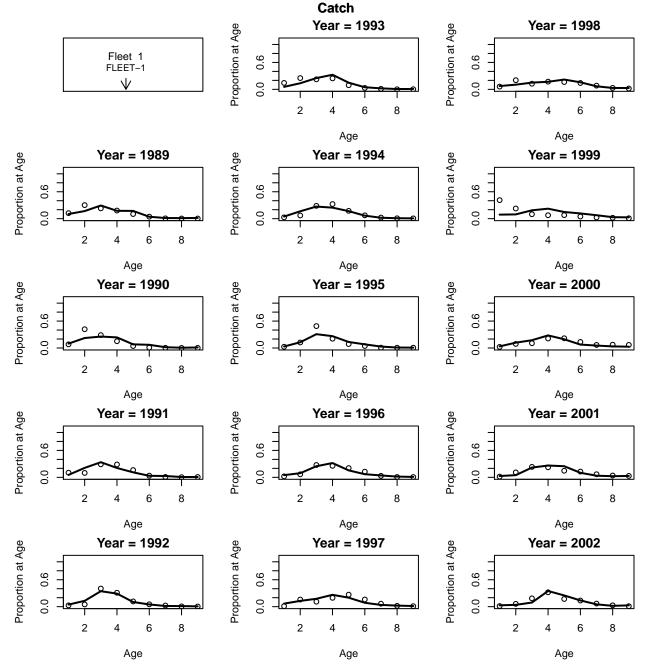


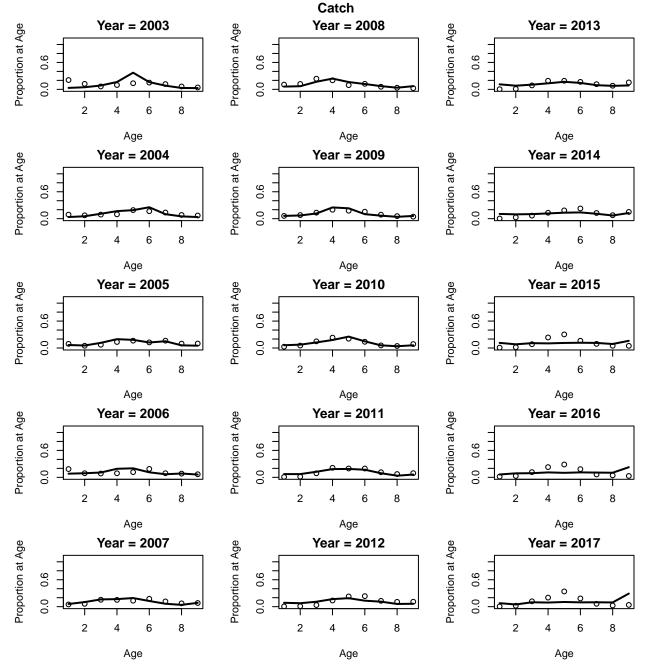
Root Mean Square Error for Catch



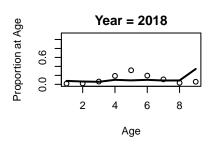
Fleet 1 Catch (FLEET-1)



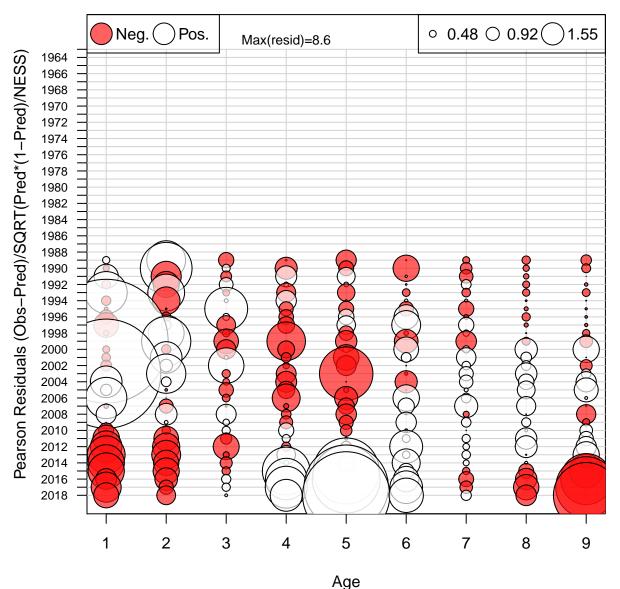




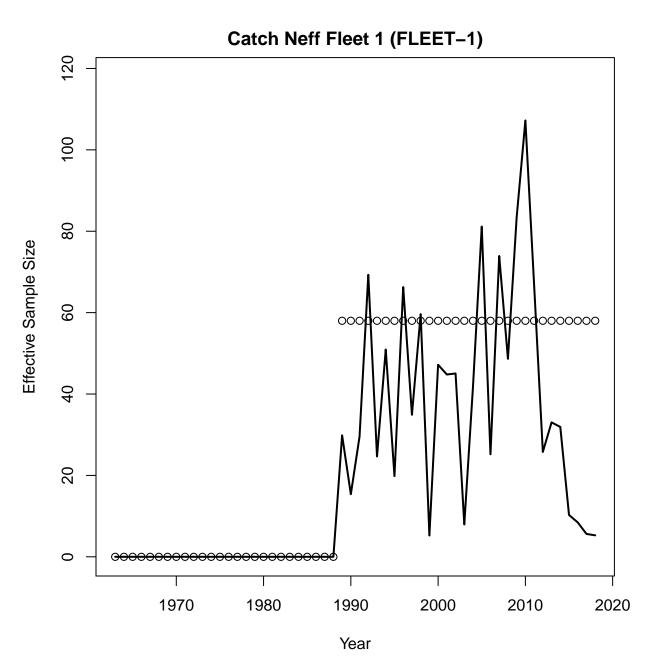
Catch



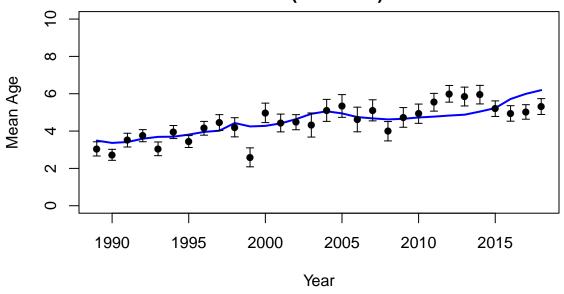
Age Comp Residuals for Catch by Fleet 1 (FLEET-1)

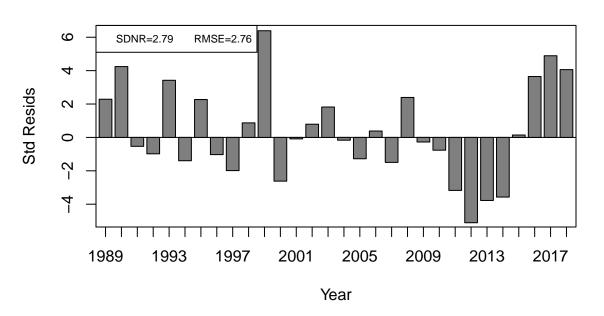


Mean resid = 0.08 SD(resid) = 1.65

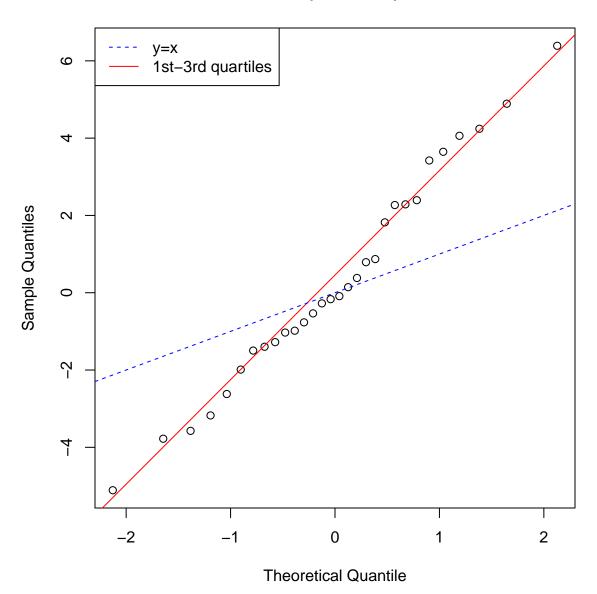


Catch Fleet 1 (FLEET-1) ESS = 58

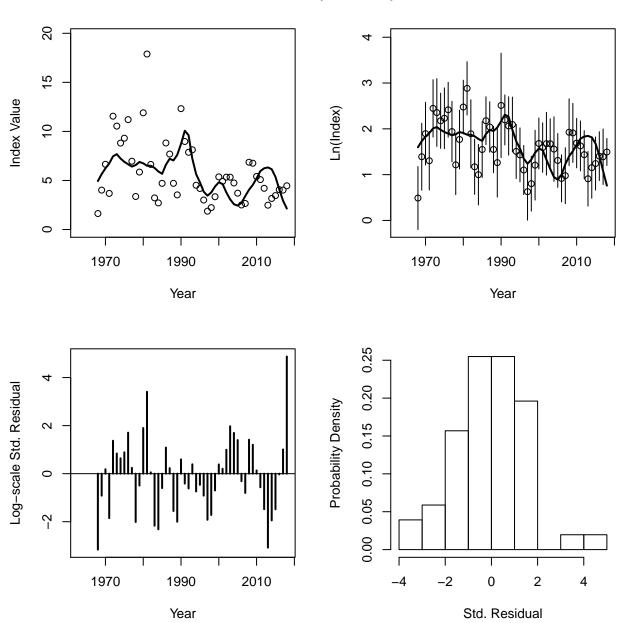




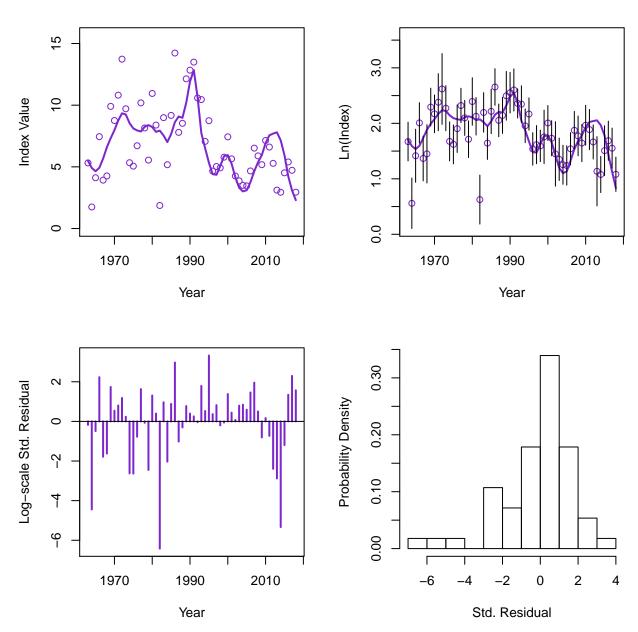
Catch Fleet 1 (FLEET-1) ESS = 58



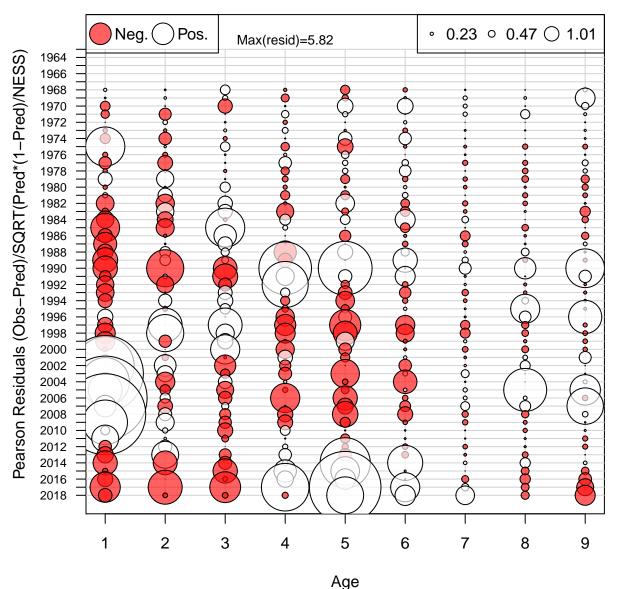
Index 1 (INDEX-1)



Index 2 (INDEX-2)

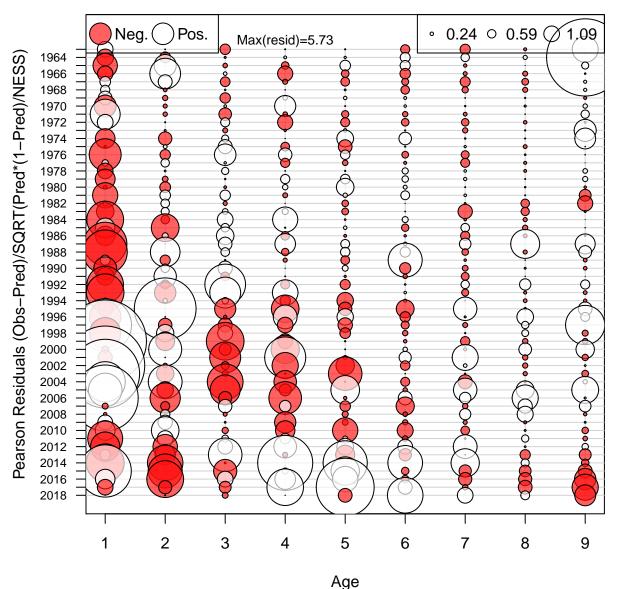


Age Comp Residuals for Index 1 (INDEX-1)



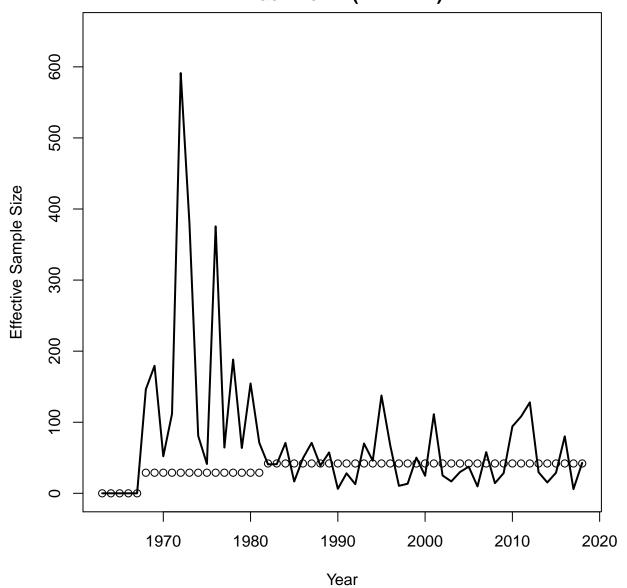
Mean resid = 0.04 SD(resid) = 1.12

Age Comp Residuals for Index 2 (INDEX-2)

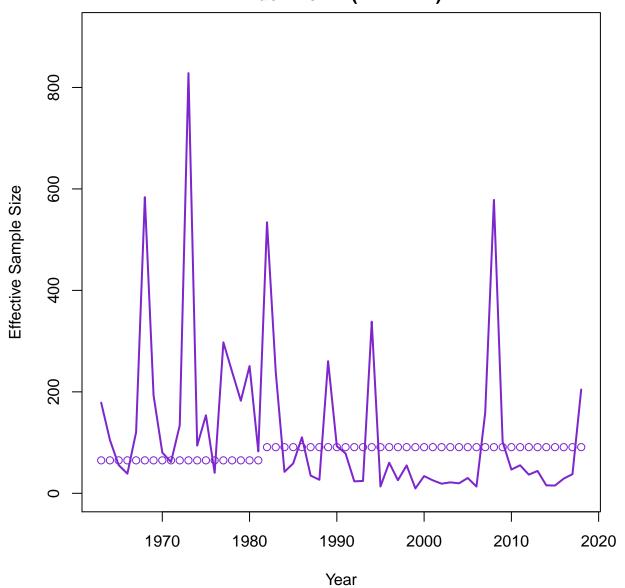


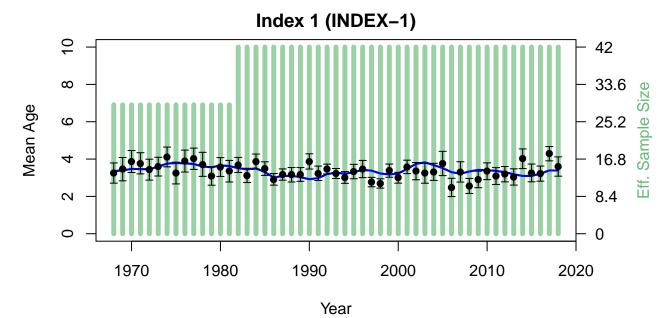
Mean resid = 0.04 SD(resid) = 1.2

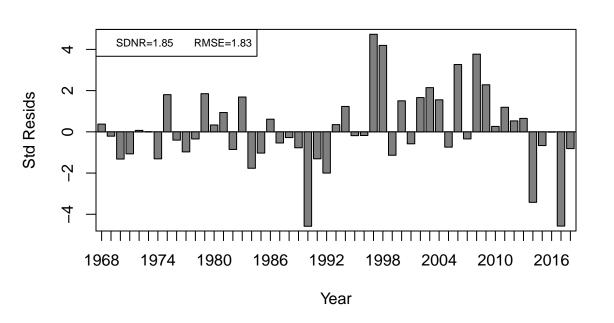
Index Neff 1 (INDEX-1)



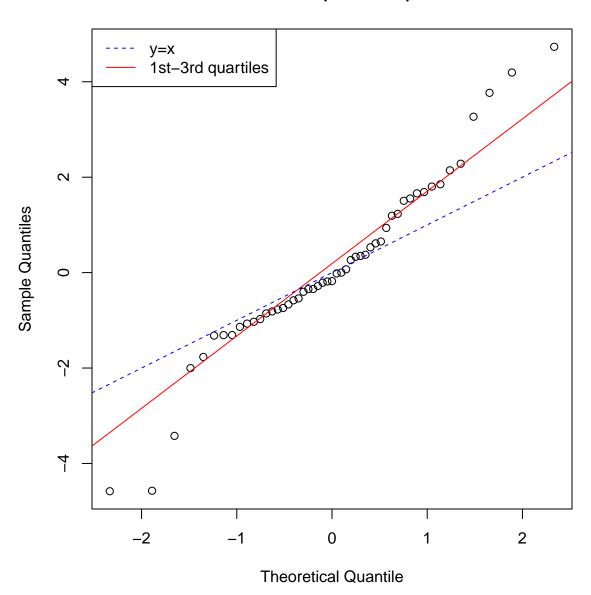
Index Neff 2 (INDEX-2)

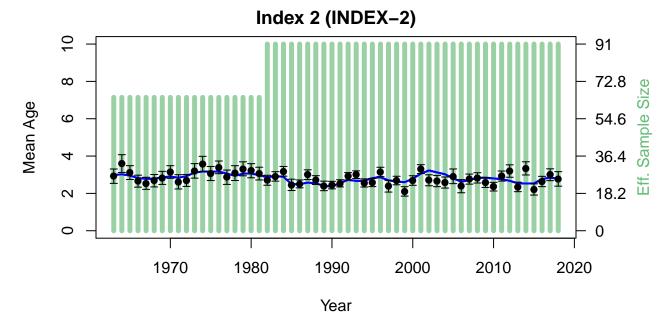


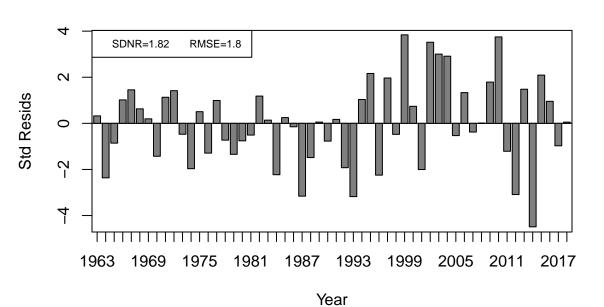




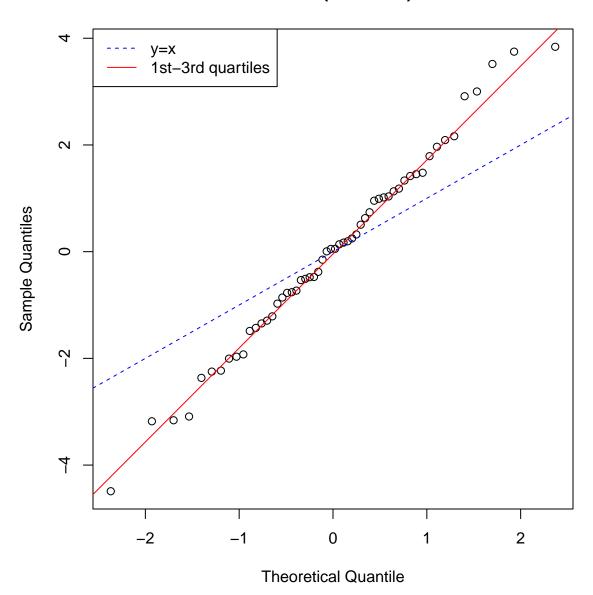
Index 1 (INDEX-1)



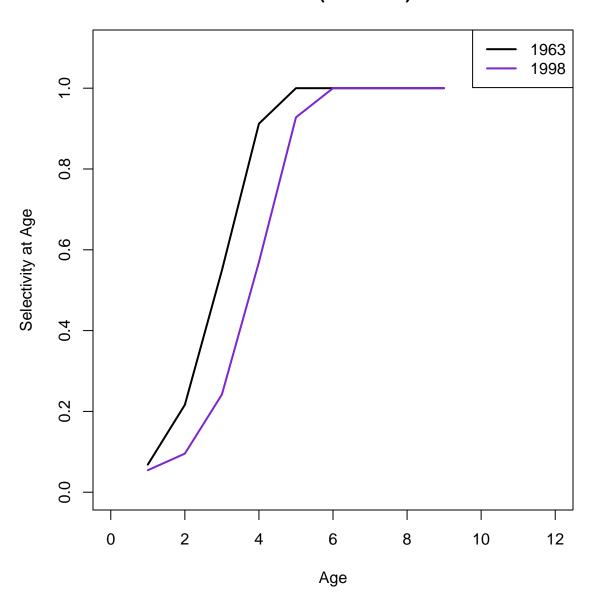


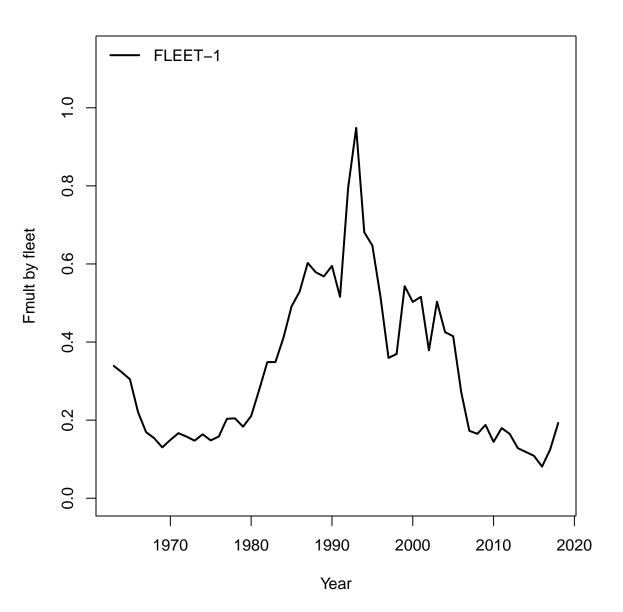


Index 2 (INDEX-2)

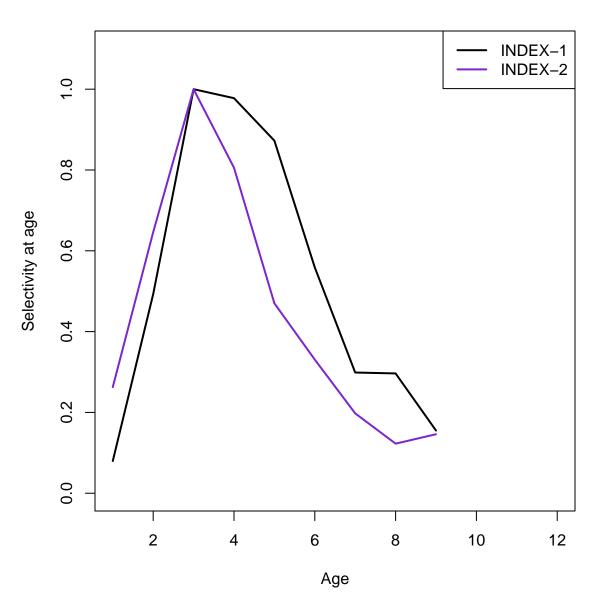


Fleet 1 (FLEET-1)

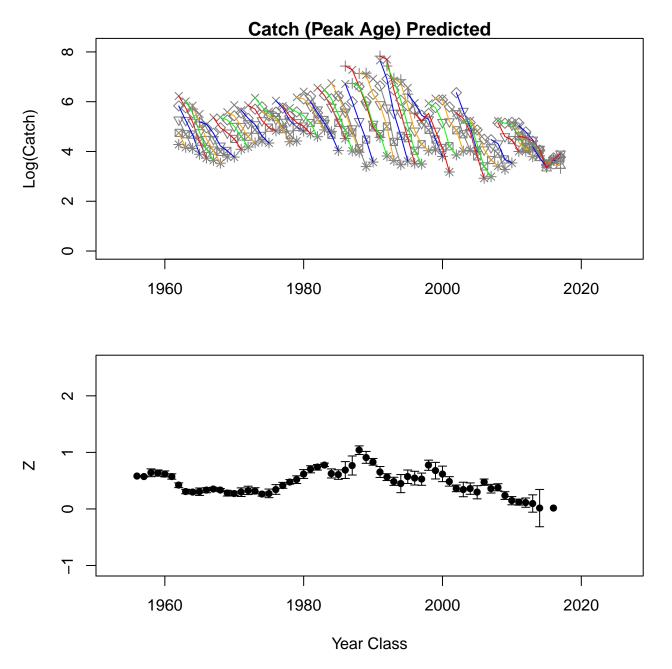




Indices

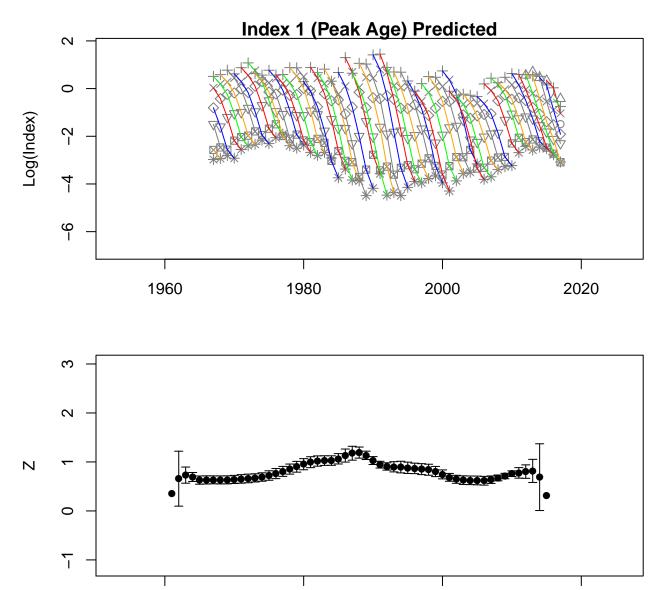




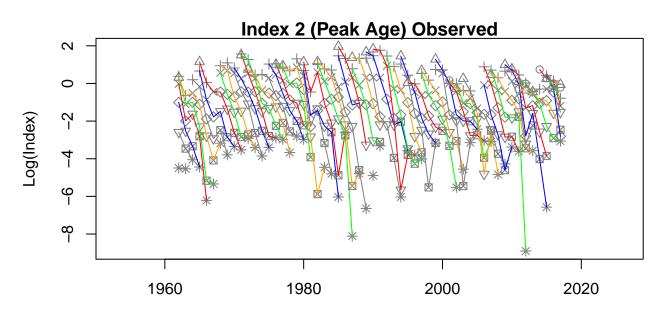


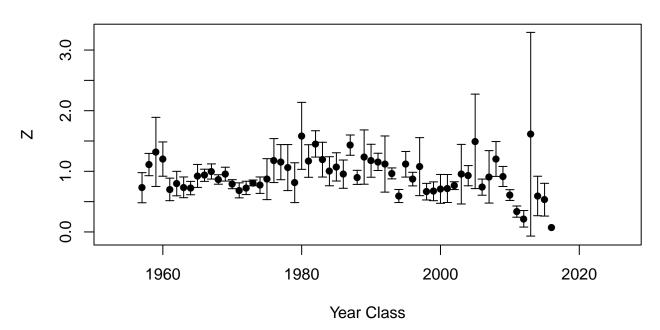


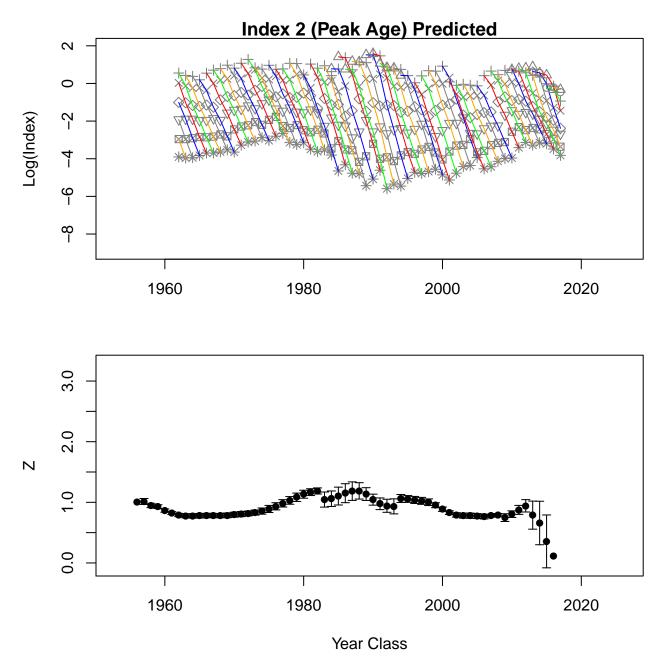




Year Class







Catch Observed

			- Cu	•	~			
			900 O	8000	000000000000000000000000000000000000000		00000	age-9
0000	9000 9000	0000			0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	age-8	0.55
	00000	000000000000000000000000000000000000000	80000000000000000000000000000000000000	8000 80000		age-7	0.48	0.25
00000	00000	80 80 80 80 80 80 80 80 80 80 80 80 80 8			age-6	0.38	0.00	-0.21
				age-5	0.70	0.26	-0.14	-0.46
00000			age-4	0.90	0.79	0.32	-0.16	-0.44
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	age-3	0.91	0.79	0.70	0.30	0.01	-0.40
	age-2	0.81	0.76	0.61	0.63	0.20	0.14	-0.32
age–1	0.69	0.72	0.59	0.30	0.34	0.12	0.03	-0.13

Catch Predicted								
		60000000000000000000000000000000000000						age-9
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		\$ 000 00 C		600 BS		age–8	0.73
\$ 000 \$ 000	\$ 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8			100 C		age-7	0.81	0.36
					age-6	0.84	0.50	-0.01
		S S S S S S S S S S S S S S S S S S S	Contract of the contract of th	age–5	0.91	0.66	0.25	-0.31
			age-4	0.94	0.82	0.56	0.16	-0.36
S. C.		age-3	0.96	0.86	0.72	0.46	0.09	-0.36
	age-2	0.96	0.89	0.77	0.63	0.38	0.03	-0.44
age–1	0.90	0.81	0.70	0.59	0.45	0.22	-0.15	-0.63

	0000				8 6092			age-9
				0000 0000 0000000000000000000000000000	- 2 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		age-8	0.31
00000		\$ 0.000 BD	- 00000 00000 00000 00000 00000			age–7	0.24	0.31
					age–6	0.48	0.11	0.12
		90000000000000000000000000000000000000		age-5	0.57	0.23	0.01	0.25
			age-4	0.45	0.14	0.00	0.22	0.37
	8000 8000 8000 8000	age-3	0.54	0.14	0.01	0.06	-0.08	0.16
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	age-2	0.45	0.24	0.04	-0.05	0.03	-0.32	-0.07
age-1	-0.04	-0.28	-0.33	-0.14	0.13	0.20	-0.07	-0.34

Index 1 (INDEX-1) Observed

	00000000000000000000000000000000000000			8000 8000 8000 8000	60000000000000000000000000000000000000			age-9
6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8				8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8			age-8	0.96
	60000000000000000000000000000000000000	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	8 0000			age-7	0.98	0.90
86000000000000000000000000000000000000		8 000 C			age-6	0.95	0.87	0.76
	6 6 6 6 6 6 6 6 6 6	8	1 1 1 1 1 1 1 1 1 1	age-5	0.90	0.73	0.60	0.45
& & & & & & & & & & & & & & & & & & &	0000	8	age-4	0.90	0.66	0.42	0.25	0.07
9 0	0	age-3	0.88	0.61	0.38	0.17	0.02	-0.16
	age-2	0.89	0.60	0.33	0.20	0.05	-0.07	-0.25
age–1	0.90	0.66	0.35	0.13	0.11	0.02	-0.10	-0.28

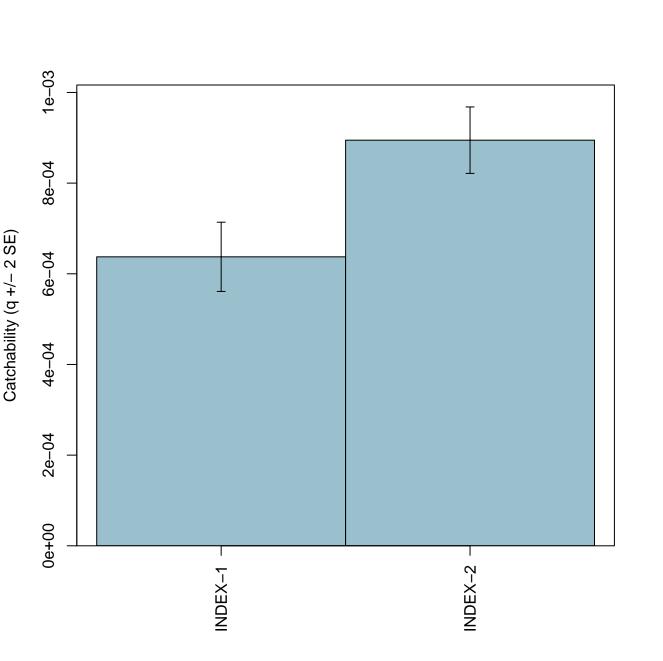
Index 1 (INDEX-1) Predicted

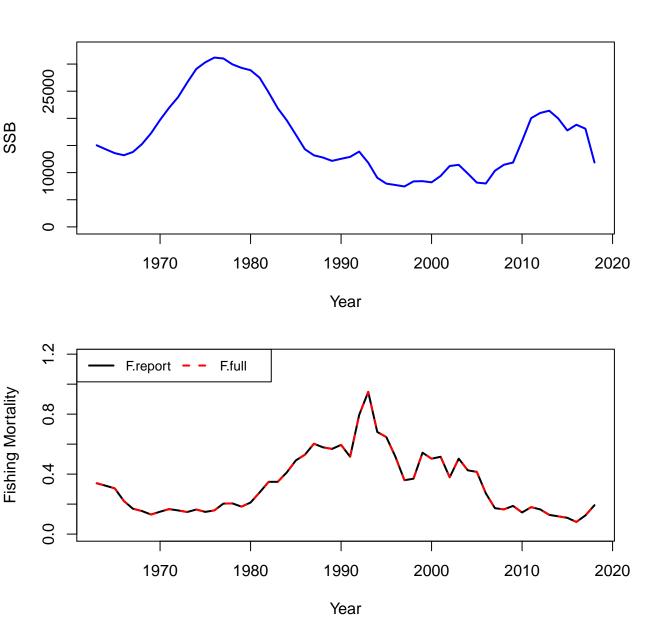
Index 2 (INDEX-2) Observed

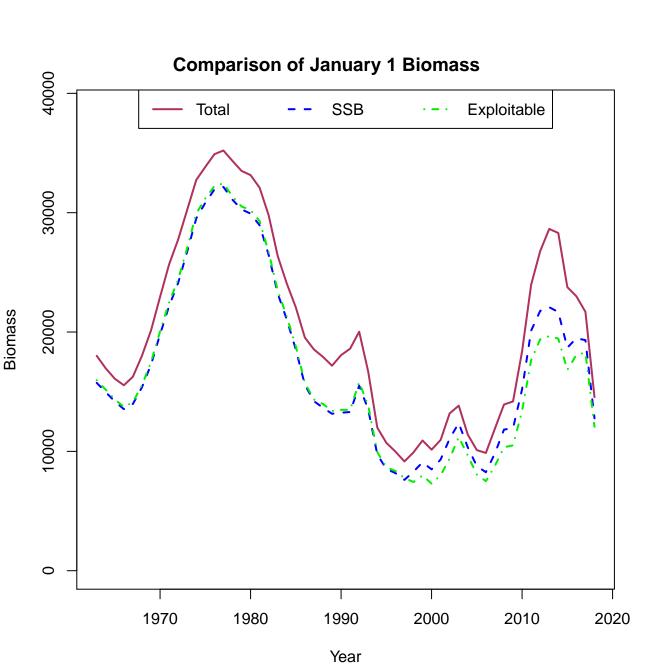
(a) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00000000000000000000000000000000000000		0000		800	age-9
0000				0000		08°8	age-8	0.54
00000000000000000000000000000000000000		○ ○ ○ ○ ○ ○ ○ ○ ○ ○		0 000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	age–7	0.02	0.19
					age-6	0.23	0.00	0.27
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	00000000000000000000000000000000000000	0000000 000000000000000000000000000000		age-5	0.33	0.10	0.35	0.31
8 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	8 8 0 8 0		age-4	0.19	0.06	-0.10	0.22	0.09
00000000000000000000000000000000000000		age-3	0.55	0.01	0.03	0.06	-0.15	0.08
	age-2	0.56	0.37	0.11	-0.11	-0.13	0.14	0.18
age–1	0.34	0.03	0.23	0.02	-0.28	0.16	0.12	0.17

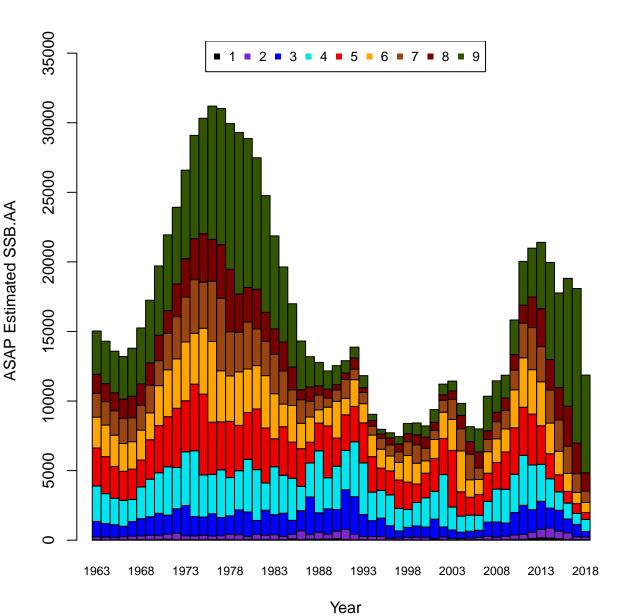
		00000		1000				age-9
				8 80 00 00 00 00 00 00 00 00 00 00 00 00		September 1	age-8	0.97
00000000000000000000000000000000000000		2000 C				age-7	0.98	0.93
00000000000000000000000000000000000000	8000 B	200 e			age-6	0.97	0.91	0.83
				age-5	0.92	0.80	0.71	0.59
2000 2000 2000 2000 2000 2000 2000 200	800	8	age-4	0.91	0.68	0.47	0.34	0.19
		age-3	0.87	0.66	0.37	0.15	0.02	-0.14
	age-2	0.89	0.57	0.35	0.14	-0.02	-0.13	-0.28
age–1	0.89	0.63	0.26	0.13	0.03	-0.07	-0.17	-0.32

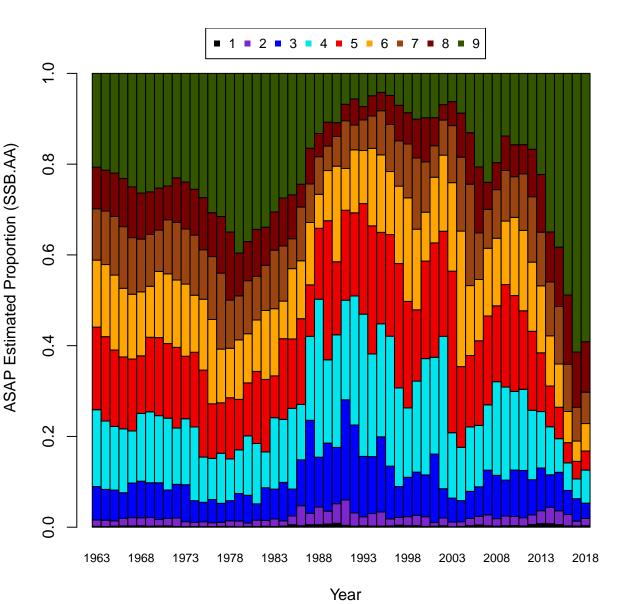
Index 2 (INDEX-2) Predicted

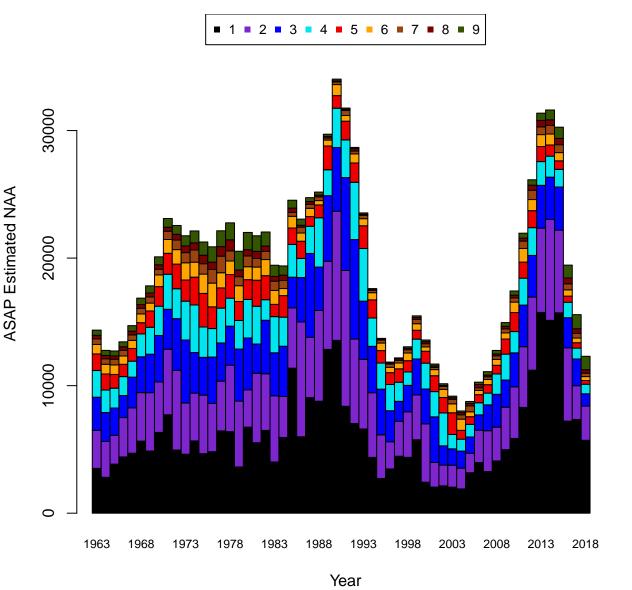


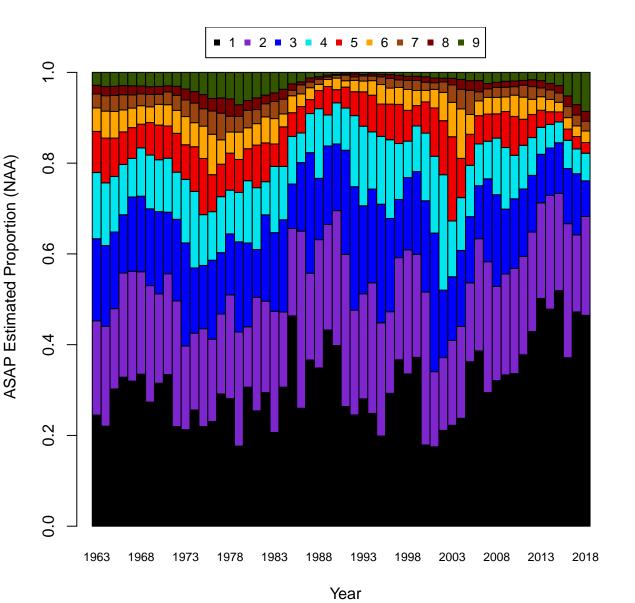


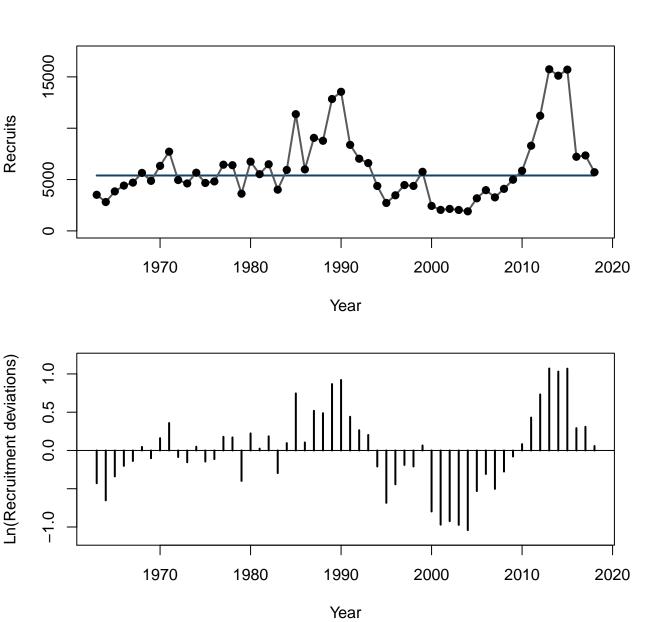


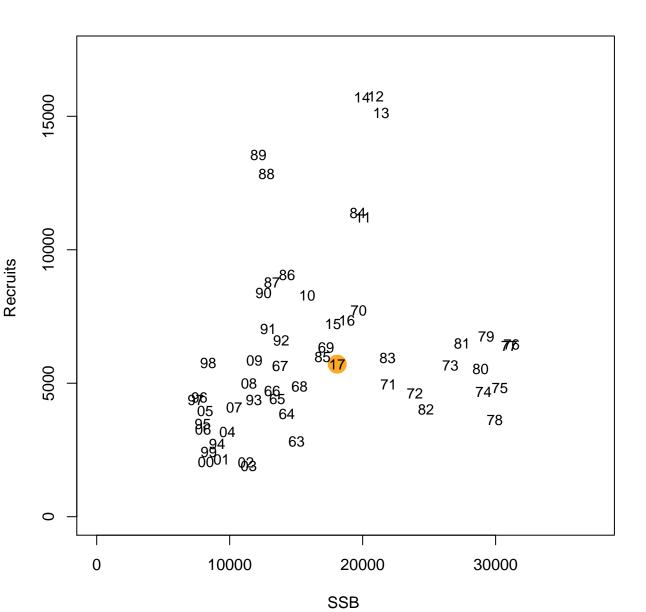


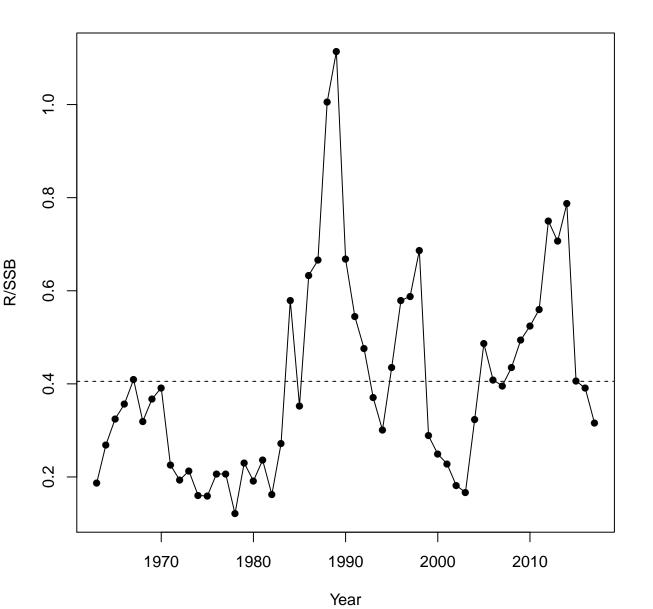


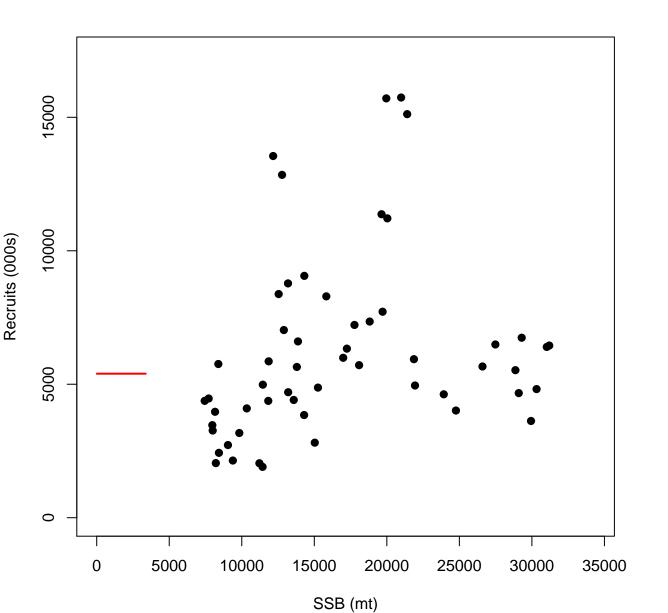


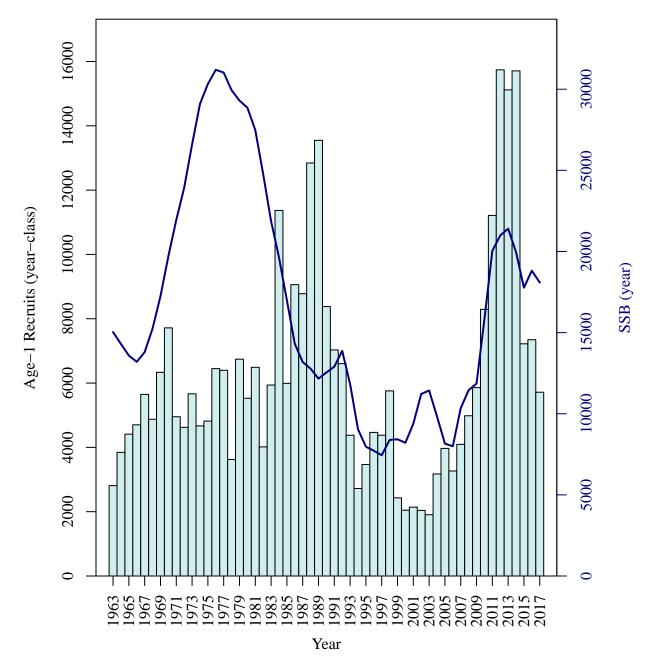


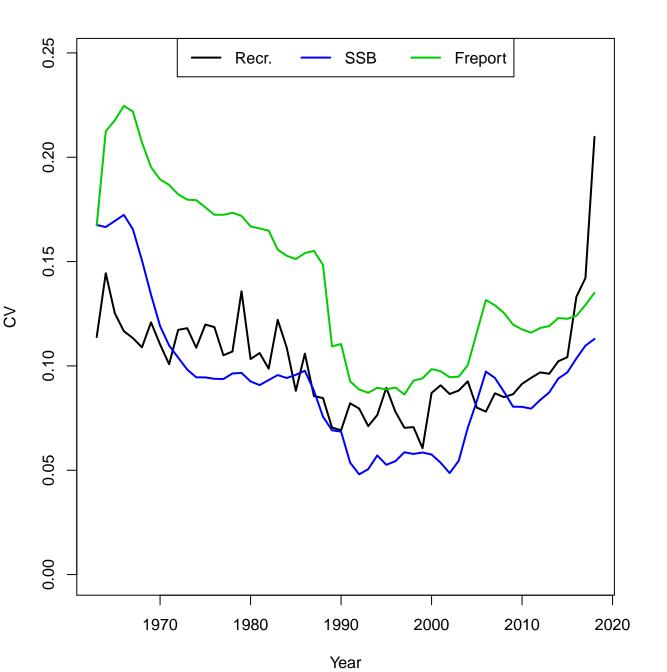




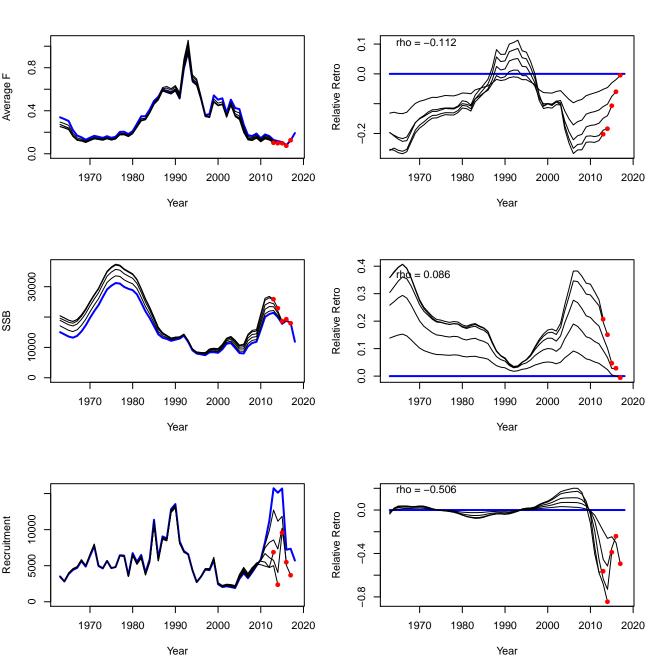




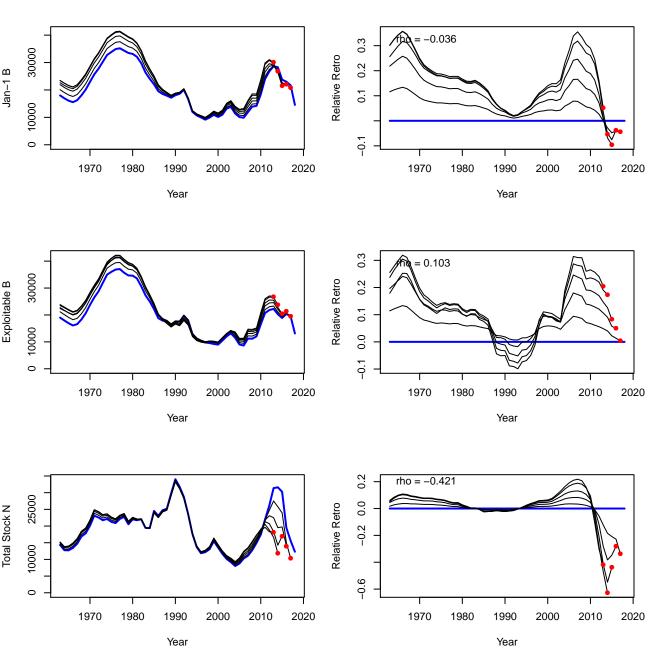




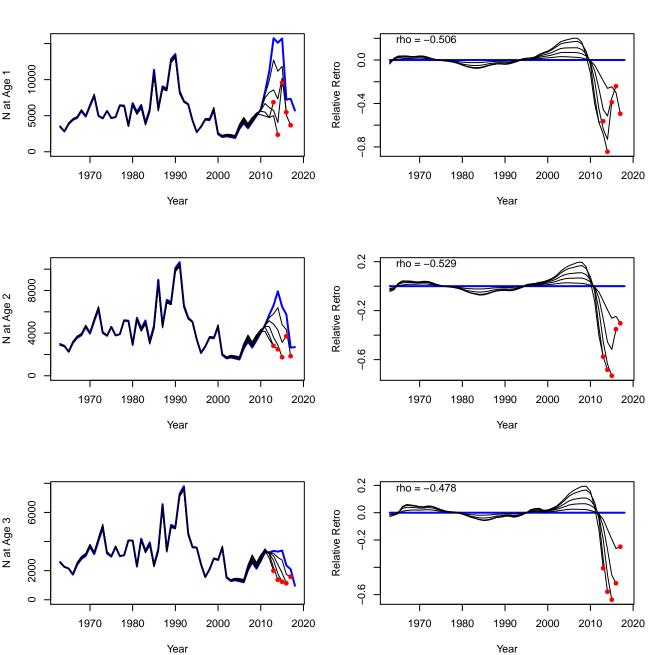
F, SSB, R



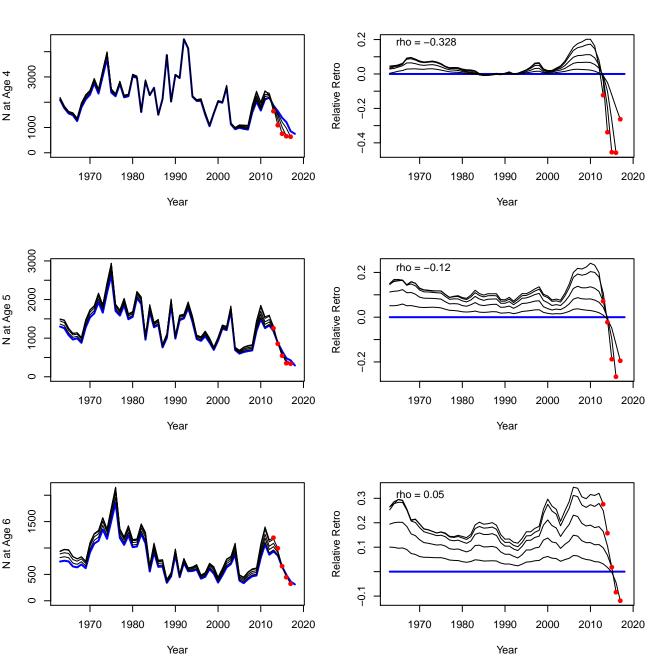
Jan-1 B, Exploitable B, Total Stock N



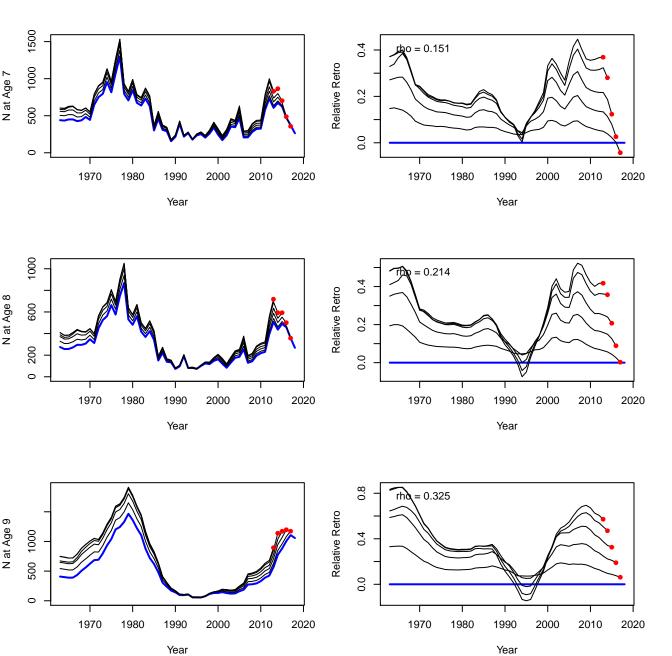
Stock Numbers at Age



Stock Numbers at Age



Stock Numbers at Age



YPR-SPR Reference Points (Years Avg = 5) 0.10 0.9 0.08 8.0 Yield per Recruit 0.7 90.0 0.6 0.5 0.04 0.4 0.3 0.02 0.2 0.1 0.00 0 0.0 0.5 1.0 1.5 2.0

Full F

YPR-SPR Reference Points (Years Avg = 5)

F	YPR	SPR	F	YPR	SPR	F	YPR	SPR
0	0	1	0.35	0.0605	0.3139	0.7	0.0683	0.21
0.01	0.0067	0.9417	0.36	0.0608	0.3086	0.71	0.0685	0.2084
0.02	0.0125	0.8893	0.37	0.0611	0.3035	0.72	0.0687	0.2069
0.03	0.0176	0.842	0.38	0.0613	0.2987	0.73	0.0689	0.2054
0.04	0.0221	0.7991	0.39	0.0616	0.294	0.74	0.0691	0.2039
0.05	0.0261	0.7601	0.4	0.0618	0.2896	0.75	0.0694	0.2024
0.06	0.0296	0.7245	0.41	0.0621	0.2853	0.76	0.0696	0.201
0.07	0.0328	0.692	0.42	0.0623	0.2812	0.77	0.0698	0.1996
0.08	0.0356	0.6621	0.43	0.0626	0.2773	0.78	0.07	0.1983
0.09	0.0381	0.6347	0.44	0.0628	0.2735	0.79	0.0702	0.197
0.1	0.0403	0.6094	0.45	0.063	0.2699	0.8	0.0704	0.1957
0.11	0.0423	0.586	0.46	0.0632	0.2664	0.81	0.0707	0.1944
0.12	0.0441	0.5643	0.47	0.0634	0.263	0.82	0.0709	0.1932
0.13	0.0457	0.5442	0.48	0.0637	0.2598	0.83	0.0711	0.192
0.14	0.0471	0.5255	0.49	0.0639	0.2567	0.84	0.0713	0.1908
0.15	0.0485	0.5081	0.5	0.0641	0.2536	0.85	0.0715	0.1896
0.16	0.0496	0.4918	0.51	0.0643	0.2507	0.86	0.0717	0.1885
0.17	0.0507	0.4766	0.52	0.0645	0.2479	0.87	0.072	0.1873
0.18	0.0517	0.4624	0.53	0.0647	0.2452	0.88	0.0722	0.1862
0.19	0.0526	0.4491	0.54	0.0649	0.2426	0.89	0.0724	0.1852
0.2	0.0534	0.4366	0.55	0.0651	0.2401	0.9	0.0726	0.1841
0.21	0.0542	0.4248	0.56	0.0654	0.2376	0.91	0.0728	0.1831
0.22	0.0549	0.4138	0.57	0.0656	0.2353	0.92	0.073	0.1821
0.23	0.0555	0.4033	0.58	0.0658	0.233	0.93	0.0733	0.1811
0.24	0.0561	0.3935	0.59	0.066	0.2307	0.94	0.0735	0.1801
0.25	0.0566	0.3842	0.6	0.0662	0.2286	0.95	0.0737	0.1791
0.26	0.0571	0.3754	0.61	0.0664	0.2265	0.96	0.0739	0.1782
0.27	0.0576	0.3671	0.62	0.0666	0.2244	0.97	0.0741	0.1772
0.28	0.058	0.3592	0.63	0.0668	0.2224	0.98	0.0744	0.1763
0.29	0.0585	0.3517	0.64	0.067	0.2205	0.99	0.0746	0.1754
0.3	0.0588	0.3446	0.65	0.0672	0.2186	1	0.0748	0.1745
0.31	0.0592	0.3378	0.66	0.0674	0.2168	1.01	0.075	0.1736
0.32	0.0596	0.3314	0.67	0.0677	0.2151	1.02	0.0752	0.1728
0.33	0.0599	0.3253	0.68	0.0679	0.2133	1.03	0.0754	0.1719
0.34	0.0602	0.3195	0.69	0.0681	0.2117	1.04	0.0757	0.1711

SPR Target Reference Points (Years Avg = 5) 0.9 0.08 8.0 0.7 90.0 0.6 Yield per Recruit F (%SPR) 0.5 0.04 0.4 0.3 0.02 0.2 0.1 0.00 0 0.4 0.2 0.3 0.6 0.5 0.7 8.0

% SPR Target

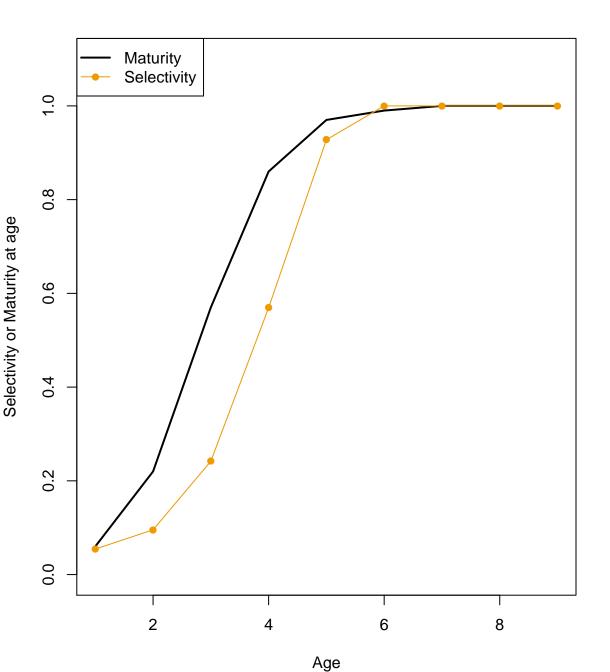
SPR Target Reference Points (Years Avg = 5)

% SPR	F(%SPR)	YPR
0.2	0.7673	0.0697
0.25	0.5126	0.0644
0.3	0.3772	0.0613
0.35	0.2924	0.0585
0.4	0.2333	0.0557
0.45	0.1893	0.0525
0.5	0.1549	0.049
0.55	0.127	0.0452
0.6	0.1039	0.0411
0.65	0.0843	0.0367
0.7	0.0675	0.032
0.75	0.0527	0.0271

0.022

8.0

0.0398

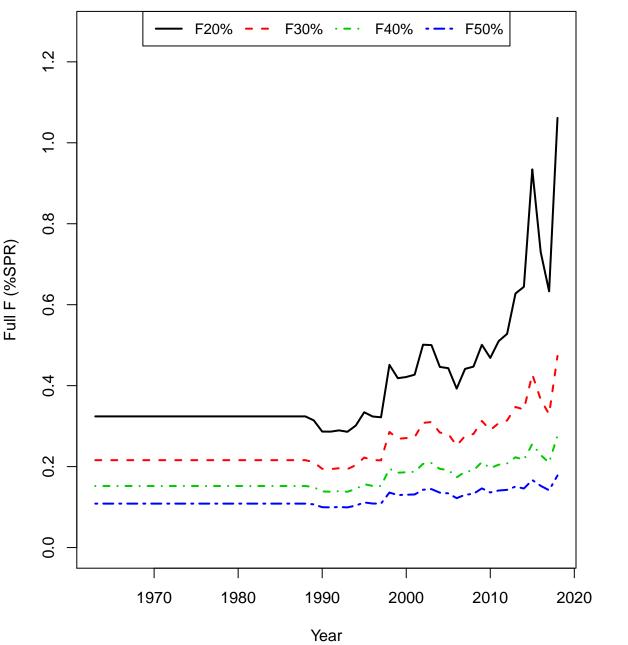


Expected Spawnings and SPR Reference Points (Years Avg = 5) 0.4 0.3 0.9 8.0 **Expected Spawnings** 0.7 0.2 0.6 0.5 0.4 0.1 0.3 0.2 0.1 0.0 0 0.0 0.5 1.0 1.5 2.0 Full F

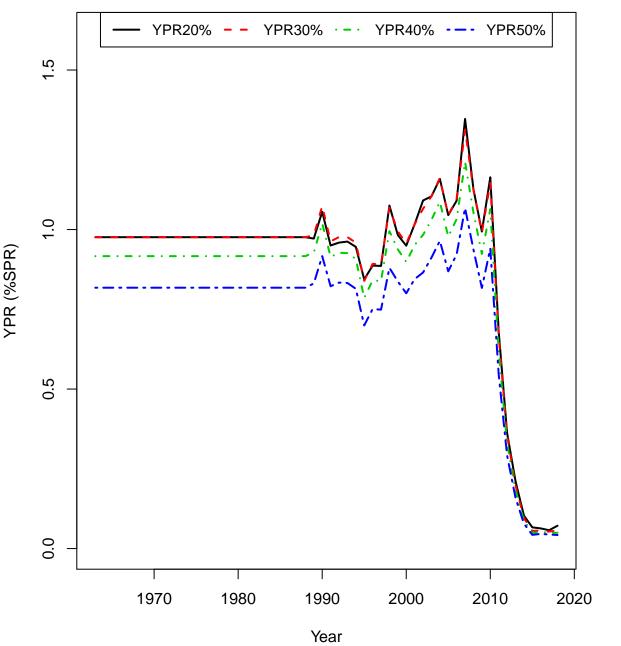
Expected Spawnings & SPR Reference Points (Years Avg = 5)

0.18 0.2577 0.4624 0.53 0.2136 0.2452 0.88 0.195 0.1862 0.19 0.2557 0.4491 0.54 0.2148 0.2426 0.89 0.1945 0.1852 0.2 0.2538 0.4366 0.55 0.2141 0.2401 0.9 0.1941 0.1841 0.21 0.252 0.4248 0.56 0.2133 0.2376 0.91 0.1936 0.1831 0.22 0.2502 0.4138 0.57 0.2126 0.2353 0.92 0.1931 0.1821 0.23 0.2485 0.4033 0.58 0.2119 0.233 0.93 0.1927 0.1811 0.24 0.2468 0.3935 0.59 0.2112 0.2307 0.94 0.1922 0.1801 0.25 0.2453 0.3842 0.6 0.2106 0.2286 0.95 0.1918 0.1791 0.26 0.2438 0.3754 0.61 0.2099 0.2265 0.96 0.1914 0.1782	F 0 0.01 0.02 0.03 0.04 0.05 0.06 0.07 0.08 0.09 0.1 0.11 0.12 0.13 0.14 0.15 0.16	E[Sp] 0.3228 0.3165 0.3107 0.3055 0.3006 0.2961 0.292 0.2881 0.2844 0.281 0.2778 0.2748 0.272 0.2693 0.2667 0.2643 0.262	SPR 1 0.9417 0.8893 0.842 0.7991 0.7601 0.7245 0.692 0.6621 0.6347 0.5094 0.586 0.5643 0.5442 0.5255 0.5081 0.4918 0.4766	F 0.35 0.36 0.37 0.38 0.39 0.4 0.41 0.42 0.43 0.44 0.45 0.46 0.47 0.48 0.49 0.5	E[Sp] 0.2321 0.231 0.2299 0.2288 0.2278 0.2268 0.2258 0.2248 0.2239 0.223 0.2221 0.2212 0.2204 0.2195 0.2179 0.2171 0.2163	SPR 0.3139 0.3086 0.3035 0.2987 0.294 0.2896 0.2853 0.2812 0.2773 0.2735 0.2699 0.2664 0.263 0.2598 0.2567 0.2536 0.2507	F 0.7 0.71 0.72 0.73 0.74 0.75 0.76 0.77 0.78 0.79 0.8 0.81 0.82 0.83 0.84 0.85 0.86	E[Sp] 0.2043 0.2038 0.2032 0.2026 0.2021 0.2015 0.201 0.2005 0.1999 0.1984 0.1989 0.1984 0.1979 0.1964 0.1969 0.1955	SPR 0.21 0.2084 0.2069 0.2054 0.2039 0.2024 0.201 0.1996 0.1983 0.197 0.1957 0.1944 0.1932 0.192 0.1908 0.1885 0.1885
0.19 0.2557 0.4491 0.54 0.2148 0.2426 0.89 0.1945 0.1852 0.2 0.2538 0.4366 0.55 0.2141 0.2401 0.9 0.1941 0.1841 0.21 0.252 0.4248 0.56 0.2133 0.2376 0.91 0.1936 0.1831 0.22 0.2502 0.4138 0.57 0.2126 0.2353 0.92 0.1931 0.1821 0.23 0.2485 0.4033 0.58 0.2119 0.233 0.93 0.1927 0.1811 0.24 0.2468 0.3935 0.59 0.2112 0.2307 0.94 0.1922 0.1801 0.25 0.2453 0.3842 0.6 0.2106 0.2286 0.95 0.1918 0.1791 0.26 0.2438 0.3754 0.61 0.2099 0.2265 0.96 0.1914 0.1782 0.27 0.2423 0.3671 0.62 0.2093 0.2244 0.97 0.1909 0.1772 <td>0.17</td> <td>0.2598</td> <td>0.4766</td> <td>0.52</td> <td>0.2163</td> <td>0.2479</td> <td>0.87</td> <td>0.1955</td> <td>0.1873</td>	0.17	0.2598	0.4766	0.52	0.2163	0.2479	0.87	0.1955	0.1873
0.21 0.252 0.4248 0.56 0.2133 0.2376 0.91 0.1936 0.1831 0.22 0.2502 0.4138 0.57 0.2126 0.2353 0.92 0.1931 0.1821 0.23 0.2485 0.4033 0.58 0.2119 0.233 0.93 0.1927 0.1811 0.24 0.2468 0.3935 0.59 0.2112 0.2307 0.94 0.1922 0.1801 0.25 0.2453 0.3842 0.6 0.2106 0.2286 0.95 0.1918 0.1791 0.26 0.2438 0.3754 0.61 0.2099 0.2265 0.96 0.1914 0.1782 0.27 0.2423 0.3671 0.62 0.2093 0.2244 0.97 0.1909 0.1772 0.28 0.2409 0.3592 0.63 0.2086 0.2224 0.98 0.1905 0.1763 0.29 0.2395 0.3517 0.64 0.208 0.2205 0.99 0.1901 0.1754 0.3 0.2382 0.3446 0.65 0.2073 0.2186	0.18 0.19	0.2577 0.2557	0.4624 0.4491	0.53 0.54	0.2156 0.2148	0.2452 0.2426	0.88 0.89	0.195 0.1945	0.1862 0.1852
0.22 0.2502 0.4138 0.57 0.2126 0.2353 0.92 0.1931 0.1821 0.23 0.2485 0.4033 0.58 0.2119 0.233 0.93 0.1927 0.1811 0.24 0.2468 0.3935 0.59 0.2112 0.2307 0.94 0.1922 0.1801 0.25 0.2453 0.3842 0.6 0.2106 0.2286 0.95 0.1918 0.1791 0.26 0.2438 0.3754 0.61 0.2099 0.2265 0.96 0.1914 0.1782 0.27 0.2423 0.3671 0.62 0.2093 0.2244 0.97 0.1909 0.1772 0.28 0.2409 0.3592 0.63 0.2086 0.2224 0.98 0.1905 0.1763 0.29 0.2395 0.3517 0.64 0.208 0.2205 0.99 0.1901 0.1754 0.3 0.2382 0.3446 0.65 0.2073 0.2186 1 0.1897 0.1745 0.31 0.2369 0.3378 0.66 0.2067 0.2168									
0.24 0.2468 0.3935 0.59 0.2112 0.2307 0.94 0.1922 0.1801 0.25 0.2453 0.3842 0.6 0.2106 0.2286 0.95 0.1918 0.1791 0.26 0.2438 0.3754 0.61 0.2099 0.2265 0.96 0.1914 0.1782 0.27 0.2423 0.3671 0.62 0.2093 0.2244 0.97 0.1909 0.1772 0.28 0.2409 0.3592 0.63 0.2086 0.2224 0.98 0.1905 0.1763 0.29 0.2395 0.3517 0.64 0.208 0.2205 0.99 0.1901 0.1754 0.3 0.2382 0.3446 0.65 0.2073 0.2186 1 0.1897 0.1745 0.31 0.2369 0.3378 0.66 0.2067 0.2168 1.01 0.1892 0.1736 0.32 0.2356 0.3314 0.67 0.2061 0.2151 1.02 0.1888 0.1728 0.33 0.2344 0.3253 0.68 0.2055 0.2133	0.22	0.2502	0.4138	0.57	0.2126	0.2353	0.92	0.1931	0.1821
0.26 0.2438 0.3754 0.61 0.2099 0.2265 0.96 0.1914 0.1782 0.27 0.2423 0.3671 0.62 0.2093 0.2244 0.97 0.1909 0.1772 0.28 0.2409 0.3592 0.63 0.2086 0.2224 0.98 0.1905 0.1763 0.29 0.2395 0.3517 0.64 0.208 0.2205 0.99 0.1901 0.1754 0.3 0.2382 0.3446 0.65 0.2073 0.2186 1 0.1897 0.1745 0.31 0.2369 0.3378 0.66 0.2067 0.2168 1.01 0.1892 0.1736 0.32 0.2356 0.3314 0.67 0.2061 0.2151 1.02 0.1888 0.1728 0.33 0.2344 0.3253 0.68 0.2055 0.2133 1.03 0.1884 0.1719	0.24	0.2468	0.3935	0.59	0.2112	0.2307	0.94	0.1922	0.1801
0.27 0.2423 0.3671 0.62 0.2093 0.2244 0.97 0.1909 0.1772 0.28 0.2409 0.3592 0.63 0.2086 0.2224 0.98 0.1905 0.1763 0.29 0.2395 0.3517 0.64 0.208 0.2205 0.99 0.1901 0.1754 0.3 0.2382 0.3446 0.65 0.2073 0.2186 1 0.1897 0.1745 0.31 0.2369 0.3378 0.66 0.2067 0.2168 1.01 0.1892 0.1736 0.32 0.2356 0.3314 0.67 0.2061 0.2151 1.02 0.1888 0.1728 0.33 0.2344 0.3253 0.68 0.2055 0.2133 1.03 0.1884 0.1719									
0.29 0.2395 0.3517 0.64 0.208 0.2205 0.99 0.1901 0.1754 0.3 0.2382 0.3446 0.65 0.2073 0.2186 1 0.1897 0.1745 0.31 0.2369 0.3378 0.66 0.2067 0.2168 1.01 0.1892 0.1736 0.32 0.2356 0.3314 0.67 0.2061 0.2151 1.02 0.1888 0.1728 0.33 0.2344 0.3253 0.68 0.2055 0.2133 1.03 0.1884 0.1719	0.27	0.2423	0.3671	0.62	0.2093		0.97	0.1909	0.1772
0.3 0.2382 0.3446 0.65 0.2073 0.2186 1 0.1897 0.1745 0.31 0.2369 0.3378 0.66 0.2067 0.2168 1.01 0.1892 0.1736 0.32 0.2356 0.3314 0.67 0.2061 0.2151 1.02 0.1888 0.1728 0.33 0.2344 0.3253 0.68 0.2055 0.2133 1.03 0.1884 0.1719									
0.32 0.2356 0.3314 0.67 0.2061 0.2151 1.02 0.1888 0.1728 0.33 0.2344 0.3253 0.68 0.2055 0.2133 1.03 0.1884 0.1719	0.3	0.2382		0.65	0.2073		1	0.1897	
0.33									
	0.33	0.2344	0.3253	0.68	0.2055	0.2133	1.03	0.1884	0.1719

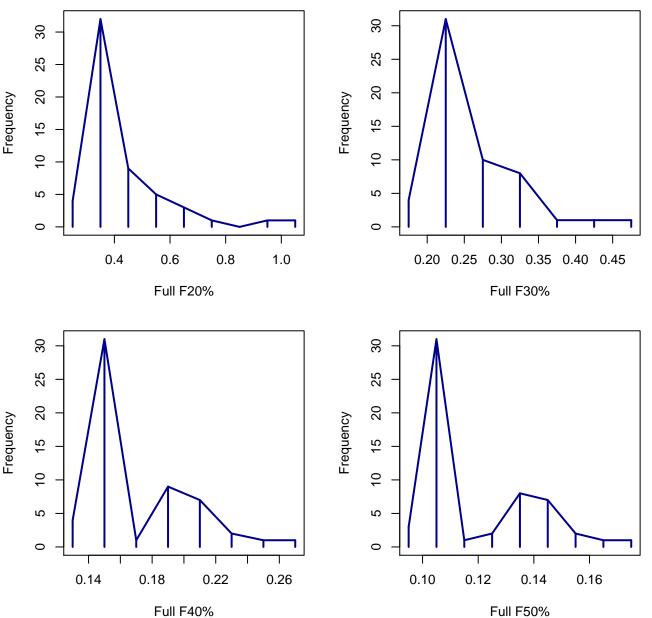
Annual F(%SPR) Reference Points



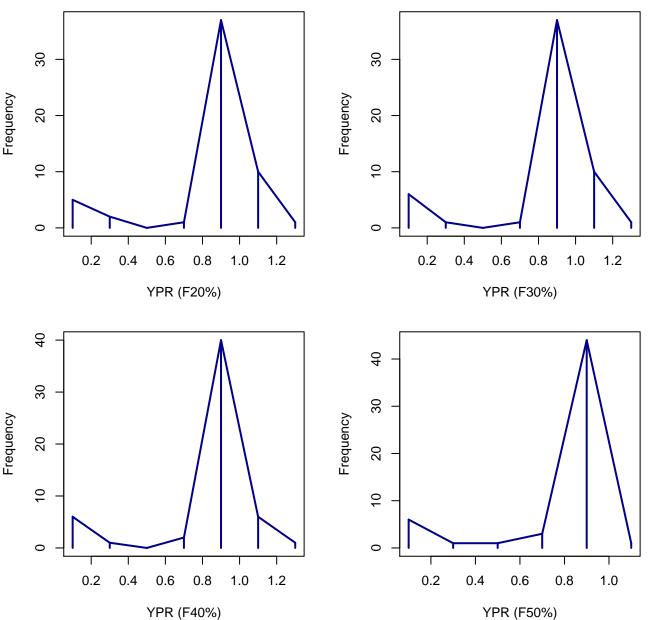
Annual YPR(%SPR) Reference Points



Annual F (%SPR) Reference Points



Annual YPR (%SPR) Reference Points





Age Comps for Catch by Fleet 1 (FLEET-1)





Age Comps for Index 1 (INDEX-1)



Age Comps for Index 2 (INDEX-2)



WAA matrix 1



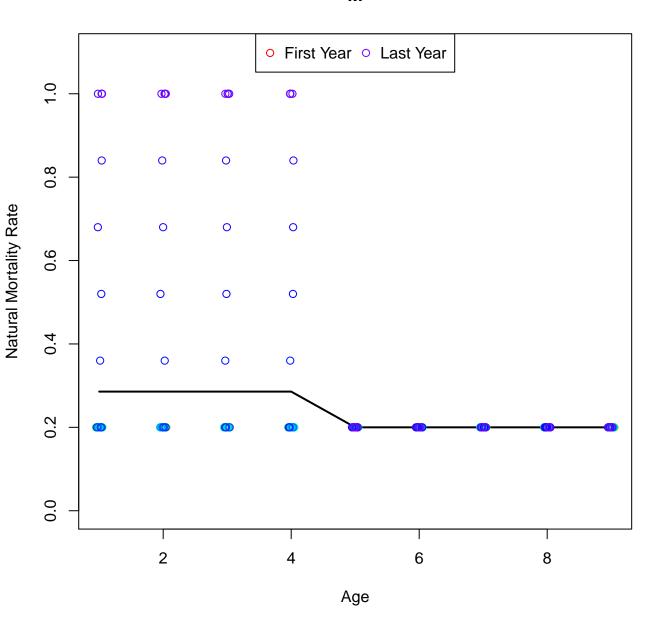
WAA matrix 2



WAA matrix 3



M



Maturity

