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Table 7.11. Estimated recruitment (age 0), total stock biomass (TSB), spawning-stock biomass (SSB), and average fishing mortality for ages 2 to 4 (FBar).

year	Recruitment Low	Recruitment	Recruitment High	TSB	SSB low	SSB	SSB high	catch	F low	Fbar	F high
1968	46089.08	49788.78	53488.48	NA	14856.32	15691.18	16526.04	9826.43	0.572225	0.599813	0.627401
1969	64352.14	70916.94	77481.74	NA	14425.68	15242.27	16058.86	9889.34	0.732815	0.795616	0.858417
1970	107886	116626.7	125367.4	NA	10720.8	11707.45	12694.1	7133.87	0.542141	0.595329	0.648517
1971	36011.98	41581.58	47151.18	NA	11736.74	12866.84	13996.94	9609.42	0.602533	0.654678	0.706823
1972	101420.6	110047.9	118675.2	NA	15117.34	16340.44	17563.54	10779.94	0.535351	0.575275	0.615199
1973	21363.48	25382.48	29401.48	NA	19191.12	20615.62	22040.12	13040.64	0.691599	0.745257	0.798915
1974	80730.64	87804.34	94878.04	NA	16086.58	17311.28	18535.98	11999.59	0.624428	0.667979	0.71153
1975	24127.89	27893.89	31659.89	NA	16579.25	17776.95	18974.65	10720.16	0.689577	0.744163	0.798749
1976	38039.31	42582.61	47125.91	NA	12810.14	13812.04	14813.94	10628.04	0.704799	0.754884	0.804969
1977	40955.65	45993.25	51030.85	NA	12306.73	13267.95	14229.17	8255.27	0.7106	0.775803	0.841006
1978	87823.02	95694.92	103566.8	NA	8838.647	9780.457	10722.27	5662.05	0.507212	0.561035	0.614858
1979	104819	113785.2	122751.4	NA	9581.71	10647.01	11712.31	7548.09	0.593832	0.65333	0.712828
1980	58166.02	64883.32	71600.62	NA	11388.53	12503.23	13617.93	10599.14	0.624744	0.673166	0.721588
1981	24848.51	28800.81	32753.11	NA	16428.11	17616.41	18804.71	13958.08	0.707716	0.752082	0.796448
1982	37195.26	41796.86	46398.46	NA	18905.07	20117.97	21330.87	13694.07	0.787906	0.840895	0.893884
1983	59431.43	65423.43	71415.43	NA	15341.6	16537.1	17732.6	10387.16	0.710731	0.772537	0.834343
1984	56351.16	62609.76	68868.36	NA	10565.9	11647.1	12728.3	8384.85	0.676008	0.742073	0.808138
1985	43967.27	49816.97	55666.67	NA	10829.36	11915.26	13001.16	10544.33	0.746086	0.812658	0.87923
1986	129960.4	140508.4	151056.4	NA	11105.9	12219.6	13333.3	10006.06	0.740458	0.8111	0.881742
1987	60466.72	67137.92	73809.12	NA	11719.46	13039.56	14359.66	13021.91	0.862871	0.939897	1.016923
1988	26482.02	30475.62	34469.22	NA	11411.4	12465.5	13519.6	14276.98	0.912462	0.97393	1.035398
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Recruitment Low	Recruitment	Recruitment High	TSB	SSB low	CCD	CCD 1 : 1	. 1	T 1	Е	
2122 21		-0	100	33D 10W	SSB	SSB high	catch	F low	Fbar	F high
31335.21	35851.21	40367.21	NA	13087.46	14053.13	15018.8	12952.54	1.021814	1.094396	1.166978
34222.74	39224.54	44226.34	NA	9008.765	9878.955	10749.15	7537.94	0.80383	0.885825	0.96782
60501.66	66160.06	71818.46	NA	6307.948	7128.088	7948.228	7258.45	0.993872	1.106962	1.220052
13521.25	15559.25	17597.25	NA	5261.152	6047.362	6833.572	7832.71	1.070707	1.170421	1.270135
39327.25	42872.35	46417.45	NA	5189.1	5729.53	6269.96	7709.97	1.175266	1.265724	1.356182
31647.93	34669.43	37690.93	30955.39	4400.366	4908.016	5415.666	5543.64	1.203267	1.329407	1.455547
30316.14	33208.94	36101.74	31986.54	3106.617	3515.417	3924.217	4753.16	0.865729	0.94572	1.025711
45394.41	49018.61	52642.81	35670.06	3972.496	4417.016	4861.536	5104.06	0.929735	1.012121	1.094507
13497.05	15143.05	16789.05	36610.58	4740.637	5222.717	5704.797	5978.56	0.984894	1.061036	1.137178
3279.212	3913.782	4548.352	42675.87	5378.379	5766.259	6154.139	5347.25	0.900999	0.957888	1.014777
26975.81	28820.11	30664.41	39296.65	4907.68	5256.15	5604.62	4943.34	1.57482	1.75681	1.9388
10711.47	11840.57	12969.67	38787.02	1290.772	1592.532	1894.292	1973.14	1.189697	1.354877	1.520057
13562.76	14782.96	16003.16	32659.38	2508.276	2765.786	3023.296	2316.45	0.888625	0.978128	1.067631
4622.188	5194.148	5766.108	29050.73	2947.344	3243.844	3540.344	2740.7	1.16252	1.29777	1.43302
8184.806	8858.996	9533.186	25100.8	2190.47	2456.97	2723.47	1500.41	0.870784	0.96812	1.065456
4595.796	5039.796	5483.796	28256.52	1998.431	2239.831	2481.231	1326.44	0.76875	0.86077	0.95279
5100.197	5505.867	5911.537	36998.43	1937.62	2157.03	2376.44	1114.1	0.820632	0.904686	0.98874
5867.921	6282.431	6696.941	40441.04	1671.012	1855.022	2039.032	1025.03	0.949839	1.045625	1.141411
1139.322	1301.582	1463.842	38109.72	1550.264	1756.104	1961.944	847.16	0.928407	1.015422	1.102437
4116.047	4474.757	4833.467	34922.82	1439.948	1621.178	1802.408	723.47	0.977018	1.074138	1.171258
7448.993	8134.283	8819.573	33496.91	913.418	1046.168	1178.918	554.36	0.908009	1.028109	1.148209
3586	4084.52	4583.04	30080.94	1118.442	1288.842	1459.242	850.31	0.919395	1.048475	1.177555
3781.373	4466.403	5151.433	32949.67	1336.6	1534.72	1732.84	412.71	0.311817	0.36833	0.424843
	60501.66 13521.25 39327.25 31647.93 30316.14 45394.41 13497.05 3279.212 26975.81 10711.47 13562.76 4622.188 8184.806 4595.796 5100.197 5867.921 1139.322 4116.047 7448.993 3586	60501.66 66160.06 13521.25 15559.25 39327.25 42872.35 31647.93 34669.43 30316.14 33208.94 45394.41 49018.61 13497.05 15143.05 3279.212 3913.782 26975.81 28820.11 10711.47 11840.57 13562.76 14782.96 4622.188 5194.148 8184.806 8858.996 4595.796 5039.796 5100.197 5505.867 5867.921 6282.431 1139.322 1301.582 4116.047 4474.757 7448.993 8134.283 3586 4084.52	60501.66 66160.06 71818.46 13521.25 15559.25 17597.25 39327.25 42872.35 46417.45 31647.93 34669.43 37690.93 30316.14 33208.94 36101.74 45394.41 49018.61 52642.81 13497.05 15143.05 16789.05 3279.212 3913.782 4548.352 26975.81 28820.11 30664.41 10711.47 11840.57 12969.67 13562.76 14782.96 16003.16 4622.188 5194.148 5766.108 8184.806 8858.996 9533.186 4595.796 5039.796 5483.796 5100.197 5505.867 5911.537 5867.921 6282.431 6696.941 1139.322 1301.582 1463.842 4116.047 4474.757 4833.467 7448.993 8134.283 8819.573 3586 4084.52 4583.04	60501.66 66160.06 71818.46 NA 13521.25 15559.25 17597.25 NA 39327.25 42872.35 46417.45 NA 31647.93 34669.43 37690.93 30955.39 30316.14 33208.94 36101.74 31986.54 45394.41 49018.61 52642.81 35670.06 13497.05 15143.05 16789.05 36610.58 3279.212 3913.782 4548.352 42675.87 26975.81 28820.11 30664.41 39296.65 10711.47 11840.57 12969.67 38787.02 13562.76 14782.96 16003.16 32659.38 4622.188 5194.148 5766.108 29050.73 8184.806 8858.996 9533.186 25100.8 4595.796 5039.796 5483.796 28256.52 5100.197 5505.867 5911.537 36998.43 5867.921 6282.431 6696.941 40441.04 1139.322 1301.582 1463.842	60501.66 66160.06 71818.46 NA 6307.948 13521.25 15559.25 17597.25 NA 5261.152 39327.25 42872.35 46417.45 NA 5189.1 31647.93 34669.43 37690.93 30955.39 4400.366 30316.14 33208.94 36101.74 31986.54 3106.617 45394.41 49018.61 52642.81 35670.06 3972.496 13497.05 15143.05 16789.05 36610.58 4740.637 3279.212 3913.782 4548.352 42675.87 5378.379 26975.81 28820.11 30664.41 39296.65 4907.68 10711.47 11840.57 12969.67 38787.02 1290.772 13562.76 14782.96 16003.16 32659.38 2508.276 4622.188 5194.148 5766.108 29050.73 2947.344 8184.806 8858.996 9533.186 25100.8 2190.47 4595.796 5039.796 5483.796 28256.52 1998.	60501.66 66160.06 71818.46 NA 6307.948 7128.088 13521.25 15559.25 17597.25 NA 5261.152 6047.362 39327.25 42872.35 46417.45 NA 5189.1 5729.53 31647.93 34669.43 37690.93 30955.39 4400.366 4908.016 30316.14 33208.94 36101.74 31986.54 3106.617 3515.417 45394.41 49018.61 52642.81 35670.06 3972.496 4417.016 13497.05 15143.05 16789.05 36610.58 4740.637 5222.717 3279.212 3913.782 4548.352 42675.87 5378.379 5766.259 26975.81 28820.11 3064.41 39296.65 4907.68 5256.15 10711.47 11840.57 12969.67 38787.02 1290.772 1592.532 13562.76 14782.96 16003.16 32659.38 2508.276 2765.786 4622.188 5194.148 5766.108 29050.73 2947.344	60501.66 66160.06 71818.46 NA 6307.948 7128.088 7948.228 13521.25 15559.25 17597.25 NA 5261.152 6047.362 6833.572 39327.25 42872.35 46417.45 NA 5189.1 5729.53 6269.96 31647.93 34669.43 37690.93 30955.39 4400.366 4908.016 5415.666 30316.14 33208.94 36101.74 31986.54 3106.617 3515.417 3924.217 45394.41 49018.61 52642.81 35670.06 3972.496 4417.016 4861.536 13497.05 15143.05 16789.05 36610.58 4740.637 5222.717 5704.797 3279.212 3913.782 4548.352 42675.87 5378.379 5766.259 6154.139 26975.81 28820.11 30664.41 39296.65 4907.68 5256.15 5604.62 10711.47 11840.57 12969.67 38787.02 1290.772 1592.532 1894.292 13562.76 14782.96 <td>60501.66 66160.06 71818.46 NA 6307.948 7128.088 7948.228 7258.45 13521.25 15559.25 17597.25 NA 5261.152 6047.362 6833.572 7832.71 39327.25 42872.35 46417.45 NA 5189.1 5729.53 6269.96 7709.97 31647.93 34669.43 37690.93 30955.39 4400.366 4908.016 5415.666 5543.64 30316.14 33208.94 36101.74 31986.54 3106.617 3515.417 3924.217 4753.16 45394.41 49018.61 52642.81 35670.06 3972.496 4417.016 4861.536 5104.06 13497.05 15143.05 16789.05 36610.58 4740.637 5222.717 5704.797 5978.56 3279.212 3913.782 4548.352 42675.87 5378.379 5766.259 6154.139 5347.25 26975.81 28820.11 30664.41 3929.665 4907.68 5256.15 5604.62 4943.34 10711.47</td> <td>60501.66 66160.06 71818.46 NA 6307.948 7128.088 7948.228 7258.45 0.993872 13521.25 15559.25 17597.25 NA 5261.152 6047.362 6833.572 7832.71 1.070707 39327.25 42872.35 46417.45 NA 5189.1 5729.53 6269.96 7709.97 1.175266 31647.93 34669.43 37690.93 30955.39 4400.366 4908.016 5415.666 5543.64 1.203267 30316.14 33208.94 36101.74 31986.54 3106.617 3515.417 3924.217 4753.16 0.865729 45394.41 49018.61 52642.81 35670.06 3972.496 4417.016 4861.536 5104.06 0.929735 13497.05 15143.05 16789.05 36610.58 4740.637 5222.717 5704.797 5978.56 0.984894 3279.212 3913.782 4548.352 42675.87 5378.379 5766.259 6154.139 5347.25 0.90999 26975.81 2882</td> <td>60501.66 66160.06 71818.46 NA 6307.948 7128.088 7948.228 7258.45 0.993872 1.106962 13521.25 15559.25 17597.25 NA 5261.152 6047.362 6833.572 7832.71 1.070707 1.170421 39327.25 42872.35 46417.45 NA 5189.1 5729.53 6269.96 7709.97 1.175266 1.265724 31647.93 34669.43 37690.93 30955.39 4400.366 4908.016 5415.666 5543.64 1.203267 1.329407 30316.14 33208.94 36101.74 31986.54 3106.617 3515.417 3924.217 4753.16 0.865729 0.94572 45394.41 49018.61 52642.81 35670.06 3972.496 4417.016 4861.536 5104.06 0.929735 1.012121 13497.05 15143.05 16789.05 36610.58 4740.637 5222.717 5704.797 5978.56 0.984894 1.061036 3279.212 3913.782 4548.352 42675.87</td>	60501.66 66160.06 71818.46 NA 6307.948 7128.088 7948.228 7258.45 13521.25 15559.25 17597.25 NA 5261.152 6047.362 6833.572 7832.71 39327.25 42872.35 46417.45 NA 5189.1 5729.53 6269.96 7709.97 31647.93 34669.43 37690.93 30955.39 4400.366 4908.016 5415.666 5543.64 30316.14 33208.94 36101.74 31986.54 3106.617 3515.417 3924.217 4753.16 45394.41 49018.61 52642.81 35670.06 3972.496 4417.016 4861.536 5104.06 13497.05 15143.05 16789.05 36610.58 4740.637 5222.717 5704.797 5978.56 3279.212 3913.782 4548.352 42675.87 5378.379 5766.259 6154.139 5347.25 26975.81 28820.11 30664.41 3929.665 4907.68 5256.15 5604.62 4943.34 10711.47	60501.66 66160.06 71818.46 NA 6307.948 7128.088 7948.228 7258.45 0.993872 13521.25 15559.25 17597.25 NA 5261.152 6047.362 6833.572 7832.71 1.070707 39327.25 42872.35 46417.45 NA 5189.1 5729.53 6269.96 7709.97 1.175266 31647.93 34669.43 37690.93 30955.39 4400.366 4908.016 5415.666 5543.64 1.203267 30316.14 33208.94 36101.74 31986.54 3106.617 3515.417 3924.217 4753.16 0.865729 45394.41 49018.61 52642.81 35670.06 3972.496 4417.016 4861.536 5104.06 0.929735 13497.05 15143.05 16789.05 36610.58 4740.637 5222.717 5704.797 5978.56 0.984894 3279.212 3913.782 4548.352 42675.87 5378.379 5766.259 6154.139 5347.25 0.90999 26975.81 2882	60501.66 66160.06 71818.46 NA 6307.948 7128.088 7948.228 7258.45 0.993872 1.106962 13521.25 15559.25 17597.25 NA 5261.152 6047.362 6833.572 7832.71 1.070707 1.170421 39327.25 42872.35 46417.45 NA 5189.1 5729.53 6269.96 7709.97 1.175266 1.265724 31647.93 34669.43 37690.93 30955.39 4400.366 4908.016 5415.666 5543.64 1.203267 1.329407 30316.14 33208.94 36101.74 31986.54 3106.617 3515.417 3924.217 4753.16 0.865729 0.94572 45394.41 49018.61 52642.81 35670.06 3972.496 4417.016 4861.536 5104.06 0.929735 1.012121 13497.05 15143.05 16789.05 36610.58 4740.637 5222.717 5704.797 5978.56 0.984894 1.061036 3279.212 3913.782 4548.352 42675.87

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year	Recruitment Low	Recruitment	Recruitment High	TSB	SSB low	SSB	SSB high	catch	F low	Fbar	F high
2012	5291.062	6435.362	7579.662	39715.04	1676.427	1945.987	2215.547	875.65	0.537235	0.672405	0.807575
2013	7291.352	9012.852	10734.35	43665.61	1626.818	2058.758	2490.698	358.02	0.177945	0.23194	0.285935
2014	3646.031	4621.101	5596.171	34251.47	2402.228	3101.298	3800.368	396.53	0.127988	0.16688	0.205772
2015	6499.184	8298.284	10097.38	29191.85	3189.895	4146.315	5102.735	308.02	0.078848	0.102759	0.12667
2016	459.6125	670.0225	880.4325	22214.04	3737.4	4891.5	6045.6	142.23	0.033741	0.043575	0.053408
2017	5126.218	8018.318	10910.42	22959.22	5359.438	6938.838	8518.238	143.95	0.030554	0.039215	0.047876
2018	NA	5107	NA	21161.56	NA	8109.616	NA	NA	NA	0.254415	NA

Table 7.12. Forecast input, including landing, discard, total catch numbers (in thousands) and total F-at-age for 2017.

Age	Landings	Discards	Catch	F (total catch)
0	0	0.43	0.43	0.000821
1	2.52	9.85	12.37	0.009744
2	27.91	0	27.91	0.038558
3	15.85	0	15.84	0.053469
4	2.81	0	2.81	0.025618
5	0.425	0	0.425	0.003028
6	0.197	0	0.197	0.000257