

Appendix 1. Data inputs.

Historical commercial and recreational fishery catches from 1872-2003 used in the assessments are presented in Table 1. The commercial landings for 1872-1962 were developed in AW 22 and for 1963-2003 as reported in AW 17. The recreational yield for 1900-1980 was developed for the eastern and western Gulf of Mexico using the same methods as used to estimate recreational landings for the entire U.S. Gulf of Mexico (AW 16); the Gulf wide information reported here is the sum of east and west rather than the estimates reported in AW 16. The recreational yield for 1981-2003 was calculated from recreational harvest (landings from headboat and Texas Parks and Wildlife surveys, A+B1 from MRFSS, Table 2) using an annual aggregated mean weight; use of mean weights stratified by year, region and mode (headboat, charter, private and headboat-charter for 1981-1985) produces alternative estimates which may better reflect the actual weight of the landings.

The CATCHEM and ASAP models and the derived aging system used recreational harvest (numbers of fish) rather than recreational yield as inputs. The recreational harvest is shown in Table 2. As with the yield the 1900-1980 values were developed for the eastern and western Gulf of Mexico using the same methods described in AW 16. The 1981-2003 harvest estimates were developed with the methods reported in AW 03 with the exception that 2003 charter and private mode catches were not available and so 1998-2002 means were substituted

The number of fish estimated to have been discarded dead from the commercial and recreational open and closed season fisheries is shown in Table 3. These estimates were developed as part of the probabilistic aging (AW 18).

The estimated bycatch from the shrimp fishery is presented in Table 4. The estimates for 1948-1971 are documented in AW 23. The methods used to develop the 1972-2003 estimates are presented in DW 3.

The indices of abundance available for the assessments are presented in Table 5. The source document numbers are provided for each index.

Annual length composition is presented in Table 6. The individual length samples with their landing date were used in the probabilistic aging procedure.

The catch at age calculated with the probabilistic method for is presented in Table 7 for a single Gulf wide stock using a natural mortality rate of 0.98 on age 0, 0.59 on age 1, and 0.1 on older ages as described in AW 18 and DW 56. Table 8 presents similar information calculated with natural mortality rates of 0.58 on age 0, 0.29 on age 1 and 0.1 on older ages. Similar information was calculated for the alternative two stock assumptions (east, west) and additional levels of natural mortality for use in the bootstrap analyses reported in AW 32).

The catch weighted 'observed' age composition from otolith samples is presented in Table 9 and the effective sample sizes used in CATCHEM to calculate weights for the observed age composition are presented in Table 10. AW 19 documents the procedures used in

developing the age composition. In CATCHEM the maximum effective sample size was fixed at 200.

The age composition of the estimated shrimp fishery bycatch of red snapper is presented in Table 11. AW 20 documented the methods used to estimate that catch at age.

Table 12 provides growth and size conversion parameters as well as the age based fecundity vector and perhaps the parameters of the length based fecundity vector.

Appendix 1. Table 1. Commercial landings and recreational harvest (MRFSS A+B1, headboat and Texas PWD landings) of red snapper from the U.S. Gulf of Mexico in pounds whole weight as used in the assessments. These recreational yield estimates for 1981-2003 were made using un-stratified average weights; the use of stratified estimates of average weight might better reflect the weight of the actual landings.

	handline +			commercial			total			recreational			total		
	west	east	total	west	east	total	west	east	total	west	east	total	west	east	total
1872	0	521,326	521,326	0	0	0	0	0	521,326	521,326			0	521,326	521,326
1873	0	781,989	781,989	0	0	0	0	0	781,989	781,989			0	781,989	781,989
1874	0	1,172,984	1,172,984	0	0	0	0	0	1,172,984	1,172,984			0	1,172,984	1,172,984
1875	0	1,433,647	1,433,647	0	0	0	0	0	1,433,647	1,433,647			0	1,433,647	1,433,647
1876	0	1,694,310	1,694,310	0	0	0	0	0	1,694,310	1,694,310			0	1,694,310	1,694,310
1877	0	1,433,647	1,433,647	0	0	0	0	0	1,433,647	1,433,647			0	1,433,647	1,433,647
1878	0	1,303,315	1,303,315	0	0	0	0	0	1,303,315	1,303,315			0	1,303,315	1,303,315
1879	0	1,433,647	1,433,647	0	0	0	0	0	1,433,647	1,433,647			0	1,433,647	1,433,647
1880	891,034	1,824,641	2,715,675	0	0	0	891034	1,824,641	2,715,675			891,034	1,824,641	2,715,675	
1881	801,943	2,052,381	2,854,324	0	0	0	801943	2,052,381	2,854,324			801,943	2,052,381	2,854,324	
1882	711,859	2,282,108	2,993,967	0	0	0	711859	2,282,108	2,993,967			711,859	2,282,108	2,993,967	
1883	634,313	2,509,861	3,144,174	0	0	0	634313	2,509,861	3,144,174			634,313	2,509,861	3,144,174	
1884	556,765	2,737,622	3,294,387	0	0	0	556765	2,737,622	3,294,387			556,765	2,737,622	3,294,387	
1885	478,225	2,965,390	3,443,615	0	0	0	478225	2,965,390	3,443,615			478,225	2,965,390	3,443,615	
1886	400,672	3,195,145	3,595,817	0	0	0	400672	3,195,145	3,595,817			400,672	3,195,145	3,595,817	
1887	203,970	3,422,926	3,626,896	0	0	0	203970	3,422,926	3,626,896			203,970	3,422,926	3,626,896	
1888	212,884	3,277,425	3,490,309	0	0	0	212884	3,277,425	3,490,309			212,884	3,277,425	3,490,309	
1889	269,327	3,483,431	3,752,758	0	0	0	269327	3,483,431	3,752,758			269,327	3,483,431	3,752,758	
1890	242,531	4,192,327	4,434,858	0	0	0	242531	4,192,327	4,434,858			242,531	4,192,327	4,434,858	
1891	269,541	3,822,273	4,091,814	0	0	0	269541	3,822,273	4,091,814			269,541	3,822,273	4,091,814	
1892	293,175	4,010,384	4,303,559	0	0	0	293175	4,010,384	4,303,559			293,175	4,010,384	4,303,559	
1893	311,969	4,132,232	4,444,201	0	0	0	311969	4,132,232	4,444,201			311,969	4,132,232	4,444,201	
1894	324,863	4,227,631	4,552,494	0	0	0	324863	4,227,631	4,552,494			324,863	4,227,631	4,552,494	
1895	333,838	4,125,291	4,459,129	0	0	0	333838	4,125,291	4,459,129			333,838	4,125,291	4,459,129	
1896	340,888	4,167,613	4,508,501	0	0	0	340888	4,167,613	4,508,501			340,888	4,167,613	4,508,501	
1897	340,642	4,138,252	4,478,894	0	0	0	340642	4,138,252	4,478,894			340,642	4,138,252	4,478,894	
1898	544,671	4,612,379	5,157,050	0	0	0	544671	4,612,379	5,157,050			544,671	4,612,379	5,157,050	
1899	722,625	5,146,576	5,869,201	0	0	0	722625	5,146,576	5,869,201			722,625	5,146,576	5,869,201	
1900	889,976	5,674,141	6,564,117	0	0	0	889976	5,674,141	6,564,117	297	0	297	890,273	5,674,141	6,564,414
1901	1,020,372	6,027,029	7,047,401	0	0	0	1020372	6,027,029	7,047,401	314	0	314	1,020,686	6,027,029	7,047,715
1902	1,126,034	6,283,575	7,409,609	0	0	0	1126034	6,283,575	7,409,609	331	0	332	1,126,365	6,283,575	7,409,941

	commercial									recreational			total		
	handline +			longline			total			west	east	total	west	east	total
	west	east	total	west	east	total	west	east	total						
1903	1,059,802	5,722,123	6,781,925	0	0	0	1059802	5,722,123	6,781,925	349	0	350	1,060,151	5,722,123	6,782,275
1904	1,011,726	5,286,731	6,298,457	0	0	0	1011726	5,286,731	6,298,457	368	1	368	1,012,094	5,286,732	6,298,825
1905	940,928	4,756,040	5,696,968	0	0	0	940928	4,756,040	5,696,968	387	1	388	941,315	4,756,041	5,697,356
1906	867,673	4,240,944	5,108,617	0	0	0	867673	4,240,944	5,108,617	407	1	408	868,080	4,240,945	5,109,025
1907	791,605	3,743,104	4,534,709	0	0	0	791605	3,743,104	4,534,709	427	1	428	792,032	3,743,105	4,535,137
1908	735,773	3,363,251	4,099,024	0	0	0	735773	3,363,251	4,099,024	448	1	449	736,221	3,363,252	4,099,473
1909	632,940	2,890,857	3,523,797	0	0	0	632940	2,890,857	3,523,797	469	2	471	633,409	2,890,859	3,524,268
1910	538,109	2,436,701	2,974,810	0	0	0	538109	2,436,701	2,974,810	491	2	493	538,600	2,436,703	2,975,303
1911	527,520	2,455,472	2,982,992	0	0	0	527520	2,455,472	2,982,992	438	2	440	527,958	2,455,474	2,983,432
1912	517,874	2,473,439	2,991,313	0	0	0	517874	2,473,439	2,991,313	391	3	394	518,265	2,473,442	2,991,707
1913	508,475	2,491,078	2,999,553	0	0	0	508475	2,491,078	2,999,553	352	3	355	508,827	2,491,081	2,999,908
1914	498,829	2,507,351	3,006,180	0	0	0	498829	2,507,351	3,006,180	319	4	323	499,148	2,507,355	3,006,503
1915	489,183	2,522,773	3,011,956	0	0	0	489183	2,522,773	3,011,956	291	5	296	489,474	2,522,778	3,012,252
1916	478,596	2,537,294	3,015,890	0	0	0	478596	2,537,294	3,015,890	269	6	275	478,865	2,537,300	3,016,165
1917	468,950	2,479,260	2,948,210	0	0	0	468950	2,479,260	2,948,210	253	7	260	469,203	2,479,267	2,948,470
1918	459,305	2,492,553	2,951,858	0	0	0	459305	2,492,553	2,951,858	242	8	250	459,547	2,492,561	2,952,108
1919	471,382	2,718,931	3,190,313	0	0	0	471382	2,718,931	3,190,313	236	10	246	471,618	2,718,941	3,190,559
1920	483,458	2,954,424	3,437,882	0	0	0	483458	2,954,424	3,437,882	236	12	247	483,694	2,954,436	3,438,129
1921	496,724	3,198,932	3,695,656	0	0	0	496724	3,198,932	3,695,656	307	14	321	497,031	3,198,946	3,695,977
1922	508,800	3,452,171	3,960,971	0	0	0	508800	3,452,171	3,960,971	405	17	422	509,205	3,452,188	3,961,393
1923	520,876	3,707,316	4,228,192	0	0	0	520876	3,707,316	4,228,192	539	20	560	521,415	3,707,336	4,228,752
1924	503,176	3,621,389	4,124,565	0	0	0	503176	3,621,389	4,124,565	720	24	744	503,896	3,621,413	4,125,309
1925	485,474	3,627,316	4,112,790	0	0	0	485474	3,627,316	4,112,790	961	29	990	486,435	3,627,345	4,113,780
1926	467,525	3,532,334	3,999,859	0	0	0	467525	3,532,334	3,999,859	1,276	35	1,310	468,801	3,532,369	4,001,169
1927	585,907	3,857,579	4,443,486	0	0	0	585907	3,857,579	4,443,486	1,684	41	1,725	587,591	3,857,620	4,445,211
1928	426,871	3,444,187	3,871,058	0	0	0	426871	3,444,187	3,871,058	2,206	49	2,255	429,077	3,444,236	3,873,313
1929	417,093	3,658,800	4,075,893	0	0	0	417093	3,658,800	4,075,893	2,866	58	2,923	419,959	3,658,858	4,078,816
1930	553,559	2,233,495	2,787,054	0	0	0	553559	2,233,495	2,787,054	3,689	68	3,758	557,248	2,233,563	2,790,812
1931	342,794	2,249,781	2,592,575	0	0	0	342794	2,249,781	2,592,575	4,138	81	4,219	346,932	2,249,862	2,596,794
1932	411,305	2,416,037	2,827,342	0	0	0	411305	2,416,037	2,827,342	4,625	96	4,721	415,930	2,416,133	2,832,063
1933	447,623	2,184,361	2,631,984	0	0	0	447623	2,184,361	2,631,984	5,151	113	5,265	452,774	2,184,474	2,637,249
1934	464,740	1,964,863	2,429,603	0	0	0	464740	1,964,863	2,429,603	5,719	134	5,853	470,459	1,964,997	2,435,456
1935	675,130	2,411,025	3,086,155	0	0	0	675130	2,411,025	3,086,155	6,330	158	6,487	681,460	2,411,183	3,092,642
1936	871,388	2,773,983	3,645,371	0	0	0	871388	2,773,983	3,645,371	6,984	185	7,170	878,372	2,774,168	3,652,541
1937	946,575	2,458,439	3,405,014	0	0	0	946575	2,458,439	3,405,014	7,685	218	7,902	954,260	2,458,657	3,412,916
1938	935,330	3,180,371	4,115,701	0	0	0	935330	3,180,371	4,115,701	8,432	255	8,687	943,762	3,180,626	4,124,388
1939	854,469	3,732,701	4,587,170	0	0	0	854469	3,732,701	4,587,170	9,226	298	9,525	863,695	3,732,999	4,596,695

	commercial									recreational			total		
	handline +			longline			total			west	east	total	west	east	total
	west	east	total	west	east	total	west	east	total						
1940	815,871	2,496,953	3,312,824	0	0	0	815871	2,496,953	3,312,824	10,069	349	10,418	825,940	2,497,302	3,323,242
1941	737,892	2,271,791	3,009,683	0	0	0	737892	2,271,791	3,009,683	13,580	523	14,103	751,472	2,272,314	3,023,786
1942	544,639	1,818,353	2,362,992	0	0	0	544639	1,818,353	2,362,992	18,058	770	18,828	562,697	1,819,123	2,381,820
1943	371,388	1,446,274	1,817,662	0	0	0	371388	1,446,274	1,817,662	23,697	1,116	24,814	395,085	1,447,390	1,842,476
1944	279,690	1,670,030	1,949,720	0	0	0	279690	1,670,030	1,949,720	30,718	1,594	32,312	310,408	1,671,624	1,982,032
1945	153,741	1,455,205	1,608,946	0	0	0	153741	1,455,205	1,608,946	39,364	2,244	41,609	193,105	1,457,449	1,650,555
1946	323,401	2,319,802	2,643,203	0	0	0	323401	2,319,802	2,643,203	49,907	3,121	53,028	373,308	2,322,923	2,696,231
1947	478,181	2,432,194	2,910,375	0	0	0	478181	2,432,194	2,910,375	62,642	4,291	66,933	540,823	2,436,485	2,977,308
1948	595,421	2,598,682	3,194,103	0	0	0	595421	2,598,682	3,194,103	77,892	5,838	83,729	673,313	2,604,520	3,277,832
1949	869,794	3,108,401	3,978,195	0	0	0	869794	3,108,401	3,978,195	96,004	7,865	103,869	965,798	3,116,266	4,082,064
1950	1,476,048	1,693,118	3,169,166	0	0	0	1476048	1,693,118	3,169,166	117,351	10,501	127,852	1,593,399	1,703,619	3,297,018
1951	1,477,540	2,016,917	3,494,457	0	0	0	1477540	2,016,917	3,494,457	140,469	13,713	154,182	1,618,009	2,030,630	3,648,639
1952	1,654,176	2,245,040	3,899,216	0	0	0	1654176	2,245,040	3,899,216	167,242	17,788	185,029	1,821,418	2,262,828	4,084,245
1953	1,358,592	2,026,470	3,385,062	0	0	0	1358592	2,026,470	3,385,062	198,120	22,927	221,047	1,556,712	2,049,397	3,606,109
1954	1,365,982	1,883,191	3,249,173	0	0	0	1365982	1,883,191	3,249,173	233,594	29,376	262,970	1,599,576	1,912,567	3,512,143
1955	1,492,039	2,106,652	3,598,691	0	0	0	1492039	2,106,652	3,598,691	274,194	37,429	311,623	1,766,233	2,144,081	3,910,314
1956	2,017,420	2,520,865	4,538,285	0	0	0	2017420	2,520,865	4,538,285	320,493	47,438	367,931	2,337,913	2,568,303	4,906,216
1957	2,013,517	2,261,891	4,275,408	0	0	0	2013517	2,261,891	4,275,408	373,105	59,825	432,931	2,386,622	2,321,716	4,708,339
1958	3,357,390	3,724,587	7,081,977	0	0	0	3357390	3,724,587	7,081,977	432,690	75,092	507,782	3,790,080	3,799,679	7,589,759
1959	3,431,602	3,407,851	6,839,453	0	0	0	3431602	3,407,851	6,839,453	499,948	93,834	593,782	3,931,550	3,501,685	7,433,235
1960	3,601,182	3,816,825	7,418,007	0	0	0	3601182	3,816,825	7,418,007	575,622	116,757	692,379	4,176,804	3,933,582	8,110,386
1961	4,248,967	3,504,256	7,753,223	0	0	0	4248967	3,504,256	7,753,223	597,999	126,432	724,431	4,846,966	3,630,688	8,477,654
1962	4,131,601	3,612,712	7,744,313	0	0	0	4131601	3,612,712	7,744,313	624,844	136,990	761,834	4,756,445	3,749,702	8,506,147
1963	3,677,162	3,009,957	6,687,119	0	0	0	3677162	3,009,957	6,687,119	656,883	148,525	805,408	4,334,045	3,158,482	7,492,527
1964	3,446,689	3,462,403	6,909,092	0	0	0	3446689	3,462,403	6,909,092	694,905	161,148	856,052	4,141,594	3,623,551	7,765,144
1965	3,500,238	3,564,061	7,064,299	0	0	0	3500238	3,564,061	7,064,299	739,757	174,981	914,738	4,239,995	3,739,042	7,979,037
1966	2,919,580	2,974,814	5,894,394	0	0	0	2919580	2,974,814	5,894,394	792,351	190,165	982,516	3,711,931	3,164,979	6,876,910
1967	4,061,713	2,790,666	6,852,379	0	0	0	4061713	2,790,666	6,852,379	853,653	206,859	1,060,512	4,915,366	2,997,525	7,912,891
1968	4,954,451	2,512,844	7,467,295	0	0	0	4954451	2,512,844	7,467,295	924,686	225,245	1,149,931	5,879,137	2,738,089	8,617,226
1969	4,019,962	2,344,264	6,364,226	0	0	0	4019962	2,344,264	6,364,226	1,006,524	245,527	1,252,051	5,026,486	2,589,791	7,616,277
1970	4,466,619	2,217,076	6,683,695	0	0	0	4466619	2,217,076	6,683,695	1,100,289	267,941	1,368,230	5,566,908	2,485,017	8,051,925
1971	5,151,388	2,134,626	7,286,014	0	0	0	5151388	2,134,626	7,286,014	1,251,223	320,579	1,571,802	6,402,611	2,455,205	8,857,816
1972	4,648,105	2,279,349	6,927,454	0	0	0	4648105	2,279,349	6,927,454	1,417,185	383,283	1,800,468	6,065,290	2,662,632	8,727,922
1973	4,672,509	2,604,511	7,277,020	0	0	0	4672509	2,604,511	7,277,020	1,599,018	457,955	2,056,973	6,271,527	3,062,466	9,333,993
1974	4,256,448	3,616,862	7,873,310	0	0	0	4256448	3,616,862	7,873,310	1,797,553	546,846	2,344,399	6,054,001	4,163,708	10,217,709
1975	3,775,645	3,433,559	7,209,204	0	0	0	3775645	3,433,559	7,209,204	1,547,024	353,487	1,900,511	5,322,669	3,787,046	9,109,715
1976	3,193,606	3,156,601	6,350,207	0	0	0	3193606	3,156,601	6,350,207	1,658,106	383,490	2,041,596	4,851,712	3,540,091	8,391,803

	commercial									recreational			total		
	handline +			longline			total			west	east	total	west	east	total
	west	east	total	west	east		west	east	total						
1977	2,758,173	2,173,199	4,931,372	0	0	0	2758173	2,173,199	4,931,372	1,892,603	485,039	2,377,642	4,650,776	2,658,238	7,309,014
1978	2,586,240	1,916,498	4,502,738	0	0	0	2586240	1,916,498	4,502,738	2,325,757	733,346	3,059,102	4,911,997	2,649,844	7,561,840
1979	2,373,583	1,956,379	4,329,962	0	0	0	2373583	1,956,379	4,329,962	2,562,428	865,684	3,428,112	4,936,011	2,822,063	7,758,074
1980	2,415,848	1,819,918	4,235,766	42,292	90,245	132,537	2458140	1,910,163	4,368,303	3,185,114	1,361,321	4,546,436	5,643,254	3,271,484	8,914,739
1981	3,017,571	2,041,270	5,058,841	47,291	171,385	218,676	3064862	2,212,655	5,277,517	2,846,681	1,281,548	4,128,229	5,911,543	3,494,203	9,405,746
1982	3,515,073	2,197,591	5,712,664	68,752	217,511	286,263	3583825	2,415,102	5,998,927	2,805,045	1,515,804	4,320,849	6,388,870	3,930,906	10,319,776
1983	3,667,340	2,288,680	5,956,020	94,787	425,542	520,329	3762127	2,714,222	6,476,349	2,155,410	1,006,531	3,161,941	5,917,537	3,720,753	9,638,290
1984	2,906,413	1,631,916	4,538,329	762,672	368,449	1,131,121	3669085	2,000,365	5,669,450	2,298,932	789,539	3,088,470	5,968,017	2,789,904	8,757,920
1985	1,846,048	1,623,814	3,469,862	604,890	114,341	719,231	2450938	1,738,155	4,189,093	1,457,091	1,530,519	2,987,609	3,908,029	3,268,674	7,176,702
1986	1,933,384	859,831	2,793,215	831,375	75,897	907,272	2764759	935,728	3,700,487	894,207	1,713,726	2,607,933	3,658,966	2,649,454	6,308,420
1987	1,474,284	796,819	2,271,103	734,038	63,474	797,512	2208322	860,293	3,068,615	658,651	1,407,954	2,066,606	2,866,973	2,268,247	5,135,221
1988	2,355,132	858,116	3,213,248	670,131	76,685	746,816	3025263	934,801	3,960,064	1,253,641	1,254,028	2,507,669	4,278,904	2,188,829	6,467,733
1989	1,891,961	673,521	2,565,482	454,743	78,572	533,315	2346704	752,093	3,098,797	1,102,542	1,180,214	2,282,757	3,449,246	1,932,307	5,381,554
1990	1,757,928	697,742	2,455,670	120,424	74,816	195,240	1878352	772,558	2,650,910	482,631	882,120	1,364,751	2,360,983	1,654,678	4,015,661
1991	1,724,747	395,205	2,119,952	72,593	20,709	93,302	1797340	415,914	2,213,254	963,167	1,134,678	2,097,845	2,760,507	1,550,592	4,311,099
1992	2,632,608	373,096	3,005,704	19,786	5,103	24,889	2652394	378,199	3,030,593	1,728,582	1,890,063	3,618,645	4,380,976	2,268,262	6,649,238
1993	2,901,388	436,988	3,338,376	20,291	15,236	35,527	2921679	452,224	3,373,903	2,585,718	2,986,881	5,572,599	5,507,397	3,439,105	8,946,502
1994	2,671,459	527,123	3,198,582	15,809	7,959	23,768	2687268	535,082	3,222,350	2,326,329	2,207,067	4,533,396	5,013,597	2,742,149	7,755,746
1995	2,735,402	172,740	2,908,142	17,506	8,459	25,965	2752908	181,199	2,934,107	2,024,996	1,668,961	3,693,957	4,777,904	1,850,160	6,628,064
1996	4,044,132	233,981	4,278,113	27,362	7,588	34,950	4071494	241,569	4,313,063	1,596,338	1,868,800	3,465,137	5,667,832	2,110,369	7,778,200
1997	4,589,368	184,406	4,773,774	31,496	4,626	36,122	4620864	189,032	4,809,896	1,816,201	2,554,039	4,370,240	6,437,065	2,743,071	9,180,136
1998	4,267,684	379,169	4,646,853	27,236	5,505	32,741	4294920	384,674	4,679,594	1,599,856	2,749,298	4,349,154	5,894,776	3,133,972	9,028,748
1999	4,229,058	537,490	4,766,548	91,741	6,623	98,364	4320799	544,113	4,864,912	963,764	3,388,118	4,351,882	5,284,563	3,932,231	9,216,794
2000	3,983,046	665,437	4,648,483	180,068	8,795	188,863	4163114	674,232	4,837,346	999,172	2,332,595	3,331,766	5,162,286	3,006,827	8,169,112
2001	3,691,045	798,080	4,489,125	126,099	10,133	136,232	3817144	808,213	4,625,357	774,554	2,790,165	3,564,719	4,591,698	3,598,378	8,190,076
2002	3,569,829	1,054,025	4,623,854	140,644	18,471	159,115	3710473	1,072,496	4,782,969	1,056,364	3,815,618	4,871,982	4,766,837	4,888,114	9,654,951
2003	3,196,720	1,022,378	4,219,098	175,144	13,027	188,171	3371864	1,035,405	4,407,269	1,187,570	3,409,657	4,597,227	4,559,434	4,445,062	9,004,496

Appendix 1. Table 2. Recreational catch (in number) of red snapper from the Gulf of Mexico as used in the assessments.

	west	east	Gulf wide		west	east	Gulf wide
1900	164	0	164	1951	77,492	7,565	85,057
1901	173	0	173	1952	92,262	9,813	102,074
1902	183	0	183	1953	109,296	12,648	121,944
1903	193	0	193	1954	128,866	16,206	145,072
1904	203	0	203	1955	151,264	20,648	171,912
1905	214	0	214	1956	176,805	26,170	202,975
1906	224	0	225	1957	205,830	33,004	238,833
1907	236	1	236	1958	238,701	41,426	280,126
1908	247	1	248	1959	275,804	51,765	327,569
1909	259	1	260	1960	317,551	64,411	381,962
1910	271	1	272	1961	329,896	69,748	399,644
1911	241	1	243	1962	344,705	75,573	420,278
1912	216	2	217	1963	362,380	81,936	444,317
1913	194	2	196	1964	383,355	88,900	472,255
1914	176	2	178	1965	408,099	96,531	504,630
1915	161	3	163	1966	437,113	104,908	542,021
1916	149	3	152	1967	470,932	114,117	585,049
1917	140	4	143	1968	510,118	124,260	634,378
1918	133	5	138	1969	555,265	135,449	690,714
1919	130	5	136	1970	606,992	147,814	754,806
1920	130	6	136	1971	690,258	176,852	867,110
1921	169	8	177	1972	781,813	211,444	993,258
1922	224	9	233	1973	882,124	252,638	1,134,763
1923	298	11	309	1974	991,649	301,676	1,293,326
1924	397	13	411	1975	853,441	195,007	1,048,448
1925	530	16	546	1976	914,721	211,559	1,126,280
1926	704	19	723	1977	1,044,085	267,580	1,311,665
1927	929	23	952	1978	1,283,042	404,562	1,687,604
1928	1,217	27	1,244	1979	1,413,605	477,569	1,891,174
1929	1,581	32	1,613	1980	1,757,120	750,995	2,508,115
1930	2,035	38	2,073	1981	1,595,534	868,618	2,464,152
1931	2,283	45	2,327	1982	1,392,181	999,005	2,391,186
1932	2,551	53	2,604	1983	2,026,290	1,818,440	3,844,729
1933	2,842	63	2,904	1984	1,186,171	255,805	1,441,977
1934	3,155	74	3,229	1985	1,004,625	596,697	1,601,322
1935	3,492	87	3,579	1986	606,398	558,138	1,164,537
1936	3,853	102	3,955	1987	481,428	528,024	1,009,452
1937	4,239	120	4,359	1988	725,783	510,400	1,236,183
1938	4,651	141	4,792	1989	652,305	485,617	1,137,922
1939	5,090	165	5,254	1990	312,485	357,062	669,547
1940	5,555	192	5,747	1991	523,205	532,238	1,055,442
1941	7,492	288	7,780	1992	802,595	817,218	1,619,813
1942	9,962	425	10,387	1993	1,101,996	1,223,092	2,325,088
1943	13,073	616	13,689	1994	909,572	770,601	1,680,172
1944	16,946	879	17,825	1995	700,065	615,557	1,315,622
1945	21,716	1,238	22,954	1996	539,430	577,035	1,116,464
1946	27,532	1,722	29,254	1997	594,047	972,685	1,566,732
1947	34,558	2,367	36,925	1998	496,566	1,034,766	1,531,333
1948	42,970	3,220	46,191	1999	236,425	1,050,934	1,287,360
1949	52,962	4,339	57,301	2000	266,197	726,813	993,010
1950	64,739	5,793	70,532	2001	238,677	844,364	1,083,041
				2002	277,089	1,133,563	1,410,652
				2003	302,096	992,881	1,294,977

Appendix 1 Table 3. Dead discards (number of fish) from the commercial and recreational finfish fisheries as used in the assessments (from Gulf wide treatment with M = 0.59: generally less than 1% differences in annual totals between M of 0.59 and 0.29).

	open season discards														
	commercial									recreational			total		
	handline			longline			total			total			total		
	west	east	total	west	east	total	west	east	total	west	east	total	west	east	total
1981															
1982															
1983															
1984	799	279	1,078	22	4	26	821	283	1,104	0	3382	3,382	821	3,665	4,486
1985	35,243	8,128	43,371	2,221	56	2,277	37,464	8,184	45,648	124821	2484	127,305	162,285	10,668	172,953
1986	32,164	10,258	42,422	3,466	54	3,520	35,630	10,312	45,942	7502	5725	13,227	43,132	16,037	59,169
1987	72,757	30,578	103,335	6,194	46	6,240	78,951	30,624	109,575	11640	9990	21,630	90,591	40,614	131,205
1988	57,474	13,343	70,817	7,831	56	7,887	65,305	13,399	78,704	160484	9462	169,946	225,789	22,861	248,650
1989	72,021	20,015	92,036	6,851	165	7,016	78,872	20,180	99,052	143608	25460	169,068	222,480	45,640	268,120
1990	84,663	23,723	108,386	2,821	302	3,123	87,484	24,025	111,509	208323	64934	273,257	295,807	88,959	384,766
1991	62,267	19,452	81,719	434	27	461	62,701	19,479	82,180	252709	114412	367,121	315,410	133,891	449,301
1992	341,310	48,832	390,142	297	90	387	341,607	48,922	390,529	237289	120637	357,926	578,896	169,559	748,455
1993	96,538	15,744	112,282	201	35	236	96,739	15,779	112,518	301286	126441	427,727	398,025	142,220	540,245
1994	256,619	64,575	321,194	86	21	107	256,705	64,596	321,301	448289	101685	549,974	704,994	166,281	871,275
1995	112,507	6,622	119,129	46	44	90	112,553	6,666	119,219	378859	59033	437,892	491,412	65,699	557,111
1996	335,328	15,917	351,245	295	28	323	335,623	15,945	351,568	136797	130920	267,717	472,420	146,865	619,285
1997	224,412	9,599	234,011	44	15	59	224,456	9,614	234,070	140154	261647	401,801	364,610	271,261	635,871
1998	360,137	49,929	410,066	304	28	332	360,441	49,957	410,398	194391	181688	376,079	554,832	231,645	786,477
1999	144,556	22,770	167,326	769	48	817	145,325	22,818	168,143	270542	230035	500,577	415,867	252,853	668,720
2000	165,541	17,821	183,362	496	26	522	166,037	17,847	183,884	62812	146549	209,361	228,849	164,396	393,245
2001	146,473	20,405	166,878	84	14	98	146,557	20,419	166,976	66444	162085	228,529	213,001	182,504	395,505
2002	270,884	73,208	344,092	2,642	72	2,714	273,526	73,280	346,806	70405	219044	289,449	343,931	292,324	636,255
2003	126,561	40,540	167,101	87	78	165	126,648	40,618	167,266	331086	211205	542,291	457,734	251,823	709,557

	closed season discards														
	commercial									recreational			total		
	handline			longline			total			total			total		
	west	east	total	west	east	total	west	east	total	west	east	total	west	east	total
1981															
1982															
1983															
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	11453	3029	14482	164	31	195	11,617	3,060	14,677	0	0	0	11617	3060	14677
1992	162349	23542	185891	284	73	357	162,633	23,615	186,248	0	0	0	162633	23615	186248
1993	94972	13112	108084	273	148	421	95,245	13,260	108,505	0	0	0	95245	13260	108505
1994	159592	33034	192626	421	94	515	160,013	33,128	193,141	0	0	0	160013	33128	193141
1995	166801	9279	176080	451	159	610	167,252	9,438	176,690	0	0	0	167252	9438	176690
1996	186226	8727	194953	375	107	482	186,601	8,834	195,435	0	0	0	186601	8834	195435
1997	198877	7574	206451	405	46	451	199,282	7,620	206,902	0	0	0	199282	7620	206902
1998	243635	26302	269937	541	69	610	244,176	26,371	270,547	30143	25639	55782	274319	52010	326329
1999	164416	21005	185421	1921	107	2028	166,337	21,112	187,449	33629	40504	74133	199966	61616	261582
2000	196115	24545	220660	2744	146	2890	198,859	24,691	223,550	45301	67676	112977	244160	92367	336527
2001	145472	23324	168796	1341	119	1460	146,813	23,443	170,256	64478	117848	182326	211291	141291	352582
2002	157654	36563	194217	2865	172	3037	160,519	36,735	197,254	50687	110498	161185	211206	147233	358439
2003	110121	28664	138785	1318	152	1470	111,439	28,816	140,255	89576	74976	164552	201015	103792	304807

Appendix 1. Table 4. Estimated shrimp fishery bycatch of red snapper in the Gulf of Mexico as used in the assessments.

	Gulf wide				west				east			
	ages 0+		ages 1+		ages 0+		ages 1+		ages 0+		ages 1+	
	catch	CV	catch	CV	catch	CV	catch	CV	catch	CV	catch	CV
1948	6274751	1.0801	2215019	1.1906	7079343	1.1512	2499044	1.2554	0	0	0	0
1949	10137938	1.0801	3578744	1.1906	11437894	1.1512	4037635	1.2554	0	0	0	0
1950	15535623	1.0801	5484154	1.1906	13815286	1.1512	4876866	1.2554	854181	1.3686	301530	1.3360
1951	18546451	1.0801	6546991	1.1906	14528503	1.1512	5128635	1.2554	1471661	1.3686	519504	1.3360
1952	21895119	1.0801	7729089	1.1906	17143634	1.1512	6051790	1.2554	1739236	1.3686	613959	1.3360
1953	22220893	1.0801	7844088	1.1906	16720986	1.1512	5902593	1.2554	1921050	1.3686	678140	1.3360
1954	29038313	1.0801	10250672	1.1906	22056909	1.1512	7786201	1.2554	2463060	1.3686	869473	1.3360
1955	27337907	1.0801	9650420	1.1906	18200252	1.1512	6424782	1.2554	2909018	1.3686	1026898	1.3360
1956	35241241	1.0801	12440337	1.1906	23747499	1.1512	8382988	1.2554	3684299	1.3686	1300576	1.3360
1957	41927375	1.0801	14800577	1.1906	29770223	1.1512	10509040	1.2554	4034204	1.3686	1424095	1.3360
1958	57131480	1.0801	20167703	1.1906	45910070	1.1512	16206488	1.2554	4267475	1.3686	1506440	1.3360
1959	61318429	1.0801	21645717	1.1906	49053509	1.1512	17316138	1.2554	4631102	1.3686	1634803	1.3360
1960	49282119	1.0801	17396839	1.1906	40839877	1.1512	14416684	1.2554	3396441	1.3686	1198961	1.3360
1961	48445135	1.0801	17101379	1.1906	37002584	1.1512	13062100	1.2554	4062080	1.3686	1433935	1.3360
1962	47356231	1.0801	16716990	1.1906	37780092	1.1512	13336565	1.2554	3600516	1.3686	1271000	1.3360
1963	54581057	1.0801	19267391	1.1906	44434855	1.1512	15685730	1.2554	3944837	1.3686	1392547	1.3360
1964	60470141	1.0801	21346267	1.1906	49482073	1.1512	17467423	1.2554	4312287	1.3686	1522259	1.3360
1965	60302905	1.0801	21287232	1.1906	49015051	1.1512	17302562	1.2554	4376330	1.3686	1544867	1.3360
1966	65758562	1.0801	23213107	1.1906	55593359	1.1512	19624738	1.2554	4278983	1.3686	1510503	1.3360
1967	67794836	1.0801	23931922	1.1906	59439594	1.1512	20982479	1.2554	3922611	1.3686	1384702	1.3360
1968	65566834	1.0801	23145426	1.1906	54949537	1.1512	19397466	1.2554	4377347	1.3686	1545226	1.3360
1969	80062302	1.0801	28262400	1.1906	68514396	1.1512	24185930	1.2554	5019134	1.3686	1771780	1.3360
1970	78335050	1.0801	27652671	1.1906	69350219	1.1512	24480980	1.2554	4378443	1.3686	1545613	1.3360
1971	75619915	1.0801	26694215	1.1906	68030191	1.1512	24015003	1.2554	3977341	1.3686	1404022	1.3360
1972	110898000	0.8329	37720756	0.9851	97647000	0.9578	33044060	1.0911	8508600	0.7004	2069263	1.1241
1973	17515000	0.6120	4611455	0.9144	15652000	0.6595	3867906	0.9732	1018400	0.9615	413994	1.0960
1974	17954000	0.3835	6724230	0.6125	16743000	0.3998	6230104	0.6211	647960	0.9435	243952	1.1013
1975	7712600	0.7577	3581413	0.8500	6445500	0.9998	2877229	1.0754	1021180	0.3465	556026	0.5237
1976	35502000	0.2321	10801297	0.6321	33777000	0.2371	10016735	0.6417	891100	0.9182	393576	1.0380
1977	17847100	0.2463	5021253	0.6818	16184300	0.2582	4318224	0.7113	1187100	0.4949	521541	0.6941
1978	9876500	0.3740	3308577	0.6519	9316700	0.3912	3012651	0.6724	369350	0.6246	193829	0.7457
1979	31916000	0.9263	10777841	1.0670	29584000	0.9977	10045543	1.1254	1258500	0.8791	396273	1.1108
1980	35134100	0.3367	10323791	0.6957	34276200	0.3434	10019417	0.6957	559200	0.7239	117711	1.2473
1981	69367000	0.7797	25429623	0.9198	67066000	0.8255	24626047	0.9558	1366100	1.0116	347467	1.3153
1982	25231000	0.8346	6247684	1.1038	21059000	1.0531	5375300	1.2605	2894700	0.6803	298515	2.1821

	Gulf wide				west				east			
	ages 0+		ages 1+		ages 0+		ages 1+		ages 0+		ages 1+	
	catch	CV	catch	CV	catch	CV	catch	CV	catch	CV	catch	CV
1983	15504700	0.8939	4701018	1.0710	13763900	0.9944	4237501	1.1484	961930	1.0491	250361	1.3324
1984	14337100	0.8866	4365592	1.0635	12445700	0.9986	3785858	1.1555	987890	1.1047	248248	1.3944
1985	13873600	0.8740	4478889	1.0348	12355900	0.9728	3967867	1.1178	815310	0.9763	268897	1.1719
1986	7288100	0.8864	2513137	1.0270	6788100	0.9567	2306075	1.0892	268830	0.8575	107092	1.0117
1987	15371000	0.8850	5324387	1.0247	14537000	0.9407	5114483	1.0665	436050	0.9606	134143	1.1857
1988	11624700	0.8739	4044427	1.0139	10739900	0.9466	3709159	1.0762	485220	0.9129	167003	1.1042
1989	15259000	0.8571	5345006	0.9977	13398000	0.9519	4743294	1.0750	958570	1.0449	330605	1.2150
1990	59594000	0.8827	19700216	1.0353	53493000	0.9768	17650215	1.1142	3146200	1.0101	1072363	1.1890
1991	42635000	0.9040	14484196	1.0461	39074000	0.9802	13139196	1.1123	1827100	0.9325	706391	1.0842
1992	29339600	0.2171	5795620	0.2264	28167700	0.2275	5483345	0.2367	806560	0.5702	141611	0.6993
1993	29945000	0.1329	16012847	0.1348	29349000	0.1333	15825477	0.1353	383050	0.8236	117425	0.8576
1994	38799000	0.1751	21377975	0.1769	37600000	0.1765	20725461	0.1783	788660	0.7505	421553	0.7679
1995	48460000	0.2563	16604389	0.2590	45888000	0.2594	15901223	0.2619	1343800	1.1197	350936	1.3871
1996	35698000	0.7317	7487266	0.7833	33574000	0.7904	7091155	0.8418	991770	1.2439	268366	1.4736
1997	25169000	0.4177	13798007	0.4211	22578000	0.4330	12387151	0.4366	1318190	1.1019	354398	1.3589
1998	45490000	0.4680	8469666	0.4712	43964000	0.4841	7775591	0.4875	1178340	0.4689	464803	0.4827
1999	40705000	0.2996	6125553	0.3133	37476000	0.3116	5477621	0.3260	1879600	0.9031	679973	1.0793
2000	15107000	0.2319	4635069	0.2432	12620400	0.2611	3179514	0.2789	2110400	0.3212	1021275	0.3230
2001	24047000	0.2603	8551626	0.2687	21902000	0.2908	7930214	0.2994	1925200	0.2283	467171	0.2363
2002	21881000	0.1337	5575271	0.1343	20438000	0.1424	5132133	0.1430	1406700	0.1208	430345	0.1231
2003	9052000	0.2736	6291501	0.2749	7680000	0.3094	5041550	0.3112	1209200	0.2179	1028816	0.2185

Appendix 1. Table 5. Indices of abundance of Gulf of Mexico red snapper as used in the assessments.

YEAR	MRFSS						LGBK_HL				Shrimp landed CPUE	
	SEDAR7 AW 4rev age range = 1 - 15 Units = # fish		East		West		SEDAR7 AW 9 age range = 2 - 15 Units = biomass (lb)		West		Goodyear 1995 Fig 36 age range = 2 - 15 Units = biomass (kg)	
	Gulf wide		Index	CV	Index	CV	Index	CV	Index	CV	Index	CV
1960												
1961												
1962												
1963												
1964												
1965												
1966												
1967											2.6790	1.0000
1968											3.3916	1.0000
1969											2.0330	1.0000
1970											2.7560	1.0000
1971											2.1512	1.0000
1972											2.5206	1.0000
1973											3.4071	1.0000
1974											2.6894	1.0000
1975											2.0636	1.0000
1976											1.4123	1.0000
1977											1.2610	1.0000
1978											0.7190	1.0000
1979											0.4694	1.0000
1980												
1981	0.6870	0.3649	0.5288	0.4423	0.4431	0.4476						
1982	0.3240	0.3338	0.2711	0.4077	0.1358	0.5404						
1983	1.0673	0.2770	1.0050	0.3748	0.4232	0.3819						
1984	0.5776	0.3251	0.3222	0.5212	0.3224	0.4049						
1985	0.3880	0.4381	0.3794	0.4427	0.1137	0.7588						
1986	0.4381	0.2559	0.4239	0.3008	0.1938	0.4484						
1987	0.4782	0.2892	0.5086	0.3157	0.0995	0.6767						
1988	0.4119	0.3190	0.3035	0.3590	0.2774	0.6386						
1989	0.2928	0.3738	0.2521	0.4249	0.1741	0.5864						
1990	0.4112	0.3337	0.3483	0.3751	0.2302	0.5018						
1991	0.6918	0.2840	0.5592	0.3128	0.3485	0.5443						

YEAR	MRFSS						LGBK_HL				Shrimp landed CPUE	
	SEDAR7 AW 4rev age range = 1 - 15 Units = # fish						SEDAR7 AW 9 age range = 2 - 15 Units = biomass (lb)				Goodyear 1995 Fig 36 age range = 2 - 15 Units = biomass (kg)	
	Gulf wide		East		West		East		West		Index	CV
Index	CV	Index	CV	Index	CV	Index	CV	Index	CV			
1992	0.8792	0.2370	0.7358	0.2712	0.4377	0.4696						
1993	0.8029	0.2466	0.6726	0.2780	0.4179	0.4830						
1994	0.6205	0.2568	0.5425	0.2900	0.4313	0.4269						
1995	0.5795	0.3074	0.4215	0.3511	0.4817	0.4938						
1996	0.8632	0.2624	0.7556	0.2844	0.5211	0.4607	0.0817	0.8317	4.8074	0.0221		
1997	1.2313	0.2129	1.1541	0.2456	0.3920	0.4460	0.0916	0.7823	4.0632	0.0214		
1998	1.1713	0.2035	1.1795	0.2359	0.3760	0.4802	0.2937	0.5321	3.5035	0.0213		
1999	1.2121	0.1977	1.2309	0.2341	0.2346	0.5046	0.1818	0.5886	3.0878	0.0223		
2000	0.9671	0.1980	1.0744	0.2363	0.2286	0.4578	0.3617	0.4809	3.2769	0.0232		
2001	0.9085	0.2038	1.0869	0.2375	0.0753	0.6682	0.4615	0.4490	3.0779	0.0231		
2002	1.0350	0.1947	1.2189	0.2322	0.2391	0.4215	0.4462	0.4490	3.0063	0.0234		
2003	1.0709	0.1948	1.0308	0.2337	0.4804	0.4021	0.4273	0.4436	2.7412	0.0243		

Appendix 1. Table 5. continued

YEAR	VIDEO						LARV_B						SEAMAP_TRWL 87+			
	SEDAR7 DW 15 age range = 2 - 15 Units = # fish						SEDAR7 DW14 and RW7 age range = 2 - 15 Units = relative reproductive output						SEDAR7 DW 2 age range = 0-2 Units = # fish			
	Gulf wide		East		West		Gulf wide		East		West		Gulf Wide		Gulf wide	
Index	CV	Index	CV	Index	CV	Index	CV	Index	CV	Index	CV	Index	CV	Index	CV	
1960																
1961																
1962																
1963																
1964																
1965																
1966																
1967																
1968																
1969																
1970																
1971																
1972																
1973																
1974																
1975																
1976																
1977																
1978																
1979																
1980																
1981																
1982																
1983																
1984																
1985																
1986							5.5383	0.6676	0.7628	1.6272	8.5752	0.6873				
1987							10.0551	0.6637	0.7048	1.3165	20.9802	0.7314	3.0192	0.1739	4.0269	0.1826
1988							4.6066	0.5719	0.2457	2.0122	8.7646	0.5643	5.2646	0.1251	2.1073	0.2019
1989							6.1167	0.4950	0.1083	2.5832	11.3639	0.4644	17.1158	0.0996	1.9621	0.2108
1990							3.7273	0.5532	0.0000	0.0000	6.9512	0.5105	15.9267	0.0996	11.0674	0.1517
1991							2.8822	0.5409	0.6462	1.3320	4.1998	0.5472	19.7272	0.0959	4.7875	0.1694
1992	0.0457	0.4814	0.0178	1.0056	0.2518	0.28912	2.9519	0.5976	0.0000	0.0000	6.0715	0.5652	5.1655	0.1344	4.3536	0.1705

YEAR	VIDEO						LARV_B						SEAMAP_TRWL 87+			
	SEDAR7 DW 15 age range = 2 - 15 Units = # fish						SEDAR7 DW14 and RW7 age range = 2 - 15 Units = relative reproductive output						SEDAR7 DW 2 age range = 0-2 Units = # fish			
	Gulf wide		East		West		Gulf wide		East		West		Gulf Wide		Gulf wide	
Index	CV	Index	CV	Index	CV	Index	CV	Index	CV	Index	CV	Index	CV	Index	CV	
1993	0.0723	0.5491	0.0269	0.7212	0.2440	0.38975	6.8454	0.6145	0.7846	1.6214	10.6809	0.6161	11.0342	0.1174	3.8690	0.1723
1994	0.0333	0.5015	0.0117	1.1368	0.1933	0.40197	3.3588	0.7491	3.9523	1.4526	2.9427	0.8028	30.4778	0.0966	6.5864	0.1627
1995	0.0686	0.42711	0.0324	0.6605	0.2709	0.26836	8.0168	0.5256	2.2913	1.0408	10.6688	0.5449	28.6743	0.0965	5.0988	0.1712
1996	0.0466	0.45494	0.0355	0.6563	0.2050	0.27268	13.6270	0.4953	0.0000	0.0000	28.0808	0.4503	11.1563	0.1092	8.2071	0.1641
1997	0.0973	0.38438	0.0155	0.7935	0.5024	0.14331	11.0610	0.4867	1.1718	1.0736	19.0106	0.4904	23.1501	0.0979	5.8416	0.1672
1998													11.2571	0.1207	3.6877	0.1993
1999							15.6005	0.4693	1.3697	1.2302	28.2644	0.4503	20.3687	0.1044	2.2691	0.1916
2000							25.5012	0.4283	9.5218	0.8377	34.6184	0.4300	15.7368	0.1058	4.8988	0.1736
2001					0.2582	0.36909	14.9447	0.4486	1.4414	0.9581	28.0846	0.4505	13.7908	0.1124	2.0419	0.2534
2002	0.1411	0.41318	0.0765	0.5699	0.4303	0.18824	22.6475	0.4322	2.7462	0.8544	41.8594	0.4393	12.2803	0.1108	4.3017	0.1759
2003															3.4799	0.2198

Appendix 1. Table 5. continued.

YEAR	SEAMAP_TRWL72+ (Miami)						SEAMAP_TRWL72+ (Miami)					
	SEDAR AW 25 age range = 0 Units = # fish						SEDAR AW 25 age range = 1 Units = # fish					
	Gulf wide		East		West		Gulf wide		East		West	
Index	CV	Index	CV	Index	CV	Index	CV	Index	CV	Index	CV	
1960												
1961												
1962												
1963												
1964												
1965												
1966												
1967												
1968												
1969												
1970												
1971												
1972	79.5707	0.9492	44.5663	0.3670	95.9005	1.7309	34.6302	1.2330	21.3367	0.8646	44.5108	1.9251
1973	22.6706	0.9282	9.7783	0.2928	34.6053	1.6672	9.8665	1.2169	4.6815	0.8358	16.0615	1.8679
1974	15.1371	0.9276	10.7733	0.2882	13.7240	1.6803	6.5879	1.2164	5.1579	0.8342	6.3698	1.8796
1975	20.4430	0.9247	10.6245	0.2952	27.5097	1.6750	8.8971	1.2143	5.0866	0.8366	12.7682	1.8749
1976	16.6894	0.9238	10.8752	0.2814	17.6023	1.6672	7.2635	1.2135	5.2066	0.8318	8.1699	1.8679
1977	18.7942	0.9237	12.0818	0.2922	20.1673	1.6698	8.1795	1.2134	5.7843	0.8356	9.3604	1.8703
1978	37.9392	0.9298	8.2426	0.2945	76.1563	1.6698	16.5117	1.2181	3.9462	0.8364	35.3468	1.8703
1979	15.9615	0.9252	5.6154	0.2904	27.2541	1.6698	6.9467	1.2146	2.6885	0.8349	12.6496	1.8703
1980	46.0515	0.9285	15.4744	0.3025	80.3784	1.6724	20.0422	1.2171	7.4086	0.8392	37.3064	1.8726
1981	38.8776	0.9348	36.5509	0.2910	16.8002	1.6750	16.9201	1.2219	17.4992	0.8351	7.7976	1.8749
1982	38.8426	0.9315	35.3051	0.2773	19.3917	1.6672	16.8712	0.4314	12.0055	0.5361	15.1087	0.4208
1983	15.0231	0.9268	8.3836	0.3116	18.7306	1.6803	6.6347	0.4212	4.6981	0.4845	7.2690	0.6437
1984	7.1248	0.9382	5.6021	0.3116	5.3327	1.6987	3.1817	0.4483	2.1439	0.5347	3.0736	0.5167
1985	12.8744	0.9825	3.3581	0.3959	23.8429	1.7776	6.1377	0.4289	2.1198	0.4938	7.8273	0.7805
1986	12.8218	1.0627	6.7429	0.5934	15.1079	1.9690	3.0101	0.7468	2.0665	0.7155	3.3437	1.2240
1987	3.0308	1.0902	3.0581	0.3066	3.2052	0.1913	5.2867	0.2993	2.8374	0.3246	5.2969	0.1643
1988	5.2806	0.1299	4.7849	0.2898	5.3783	0.1336	4.7116	0.1288	2.4590	0.3930	4.8798	0.1320
1989	17.0033	0.1014	22.1582	0.2304	16.3230	0.1092	3.2048	0.1878	5.2764	0.6391	3.0912	0.1959
1990	15.9386	0.0991	18.4019	0.1845	15.6689	0.1063	13.9742	0.1276	8.8520	0.2634	14.4018	0.1319
1991	19.7256	0.0967	24.1858	0.1687	19.2625	0.1039	5.9638	0.1509	4.6194	0.3740	6.0748	0.1562
1992	5.1856	0.1357	3.9074	0.3090	5.2906	0.1388	5.9759	0.1370	5.2084	0.2572	6.0429	0.1422
1993	11.0378	0.1180	9.7569	0.2060	11.0863	0.1246	6.2188	0.1267	3.2154	0.2874	6.6184	0.1286
1994	30.4503	0.0948	6.2768	0.2187	32.8431	0.0969	10.0125	0.1267	8.2758	0.2034	10.1821	0.1342
1995	28.5393	0.0961	15.6900	0.1834	29.8200	0.0993	7.4076	0.1388	2.1792	0.5259	7.8244	0.1411
1996	11.1058	0.1111	6.2210	0.2264	11.5775	0.1156	11.1744	0.1279	5.9862	0.2307	11.6878	0.1320
1997	23.0754	0.0988	13.6112	0.2020	23.9509	0.1027	7.7787	0.1409	5.5379	0.3026	7.9873	0.1457
1998	11.3118	0.1214	4.1622	0.3203	11.8987	0.1248	4.8486	0.1634	4.2282	0.3058	5.0223	0.1690
1999	20.2554	0.1047	11.2240	0.2101	21.1022	0.1085	3.3961	0.1640	3.0751	0.4168	3.4511	0.1698
2000	15.7532	0.1052	14.7179	0.2099	15.7031	0.1123	6.8943	0.1367	9.2644	0.2523	6.6892	0.1444
2001	13.8036	0.1122	4.2910	0.3075	14.6171	0.1151	4.2541	0.1566	4.4146	0.2878	4.3670	0.1613
2002	12.2829	0.1124	7.1785	0.2245	12.7920	0.1162	5.3365	0.1522	3.2593	0.3187	5.5827	0.1571
2003	14.6814	0.1112	8.3147	0.2545	15.2226	0.1154	4.9740	0.2551	1.7943	0.6152	4.9705	0.2748

Appendix 1. Table 6. Annual numbers of fish at length (inches) by region and commercial gear (longline, or handline plus others) or recreational mode (headboat, charter, or private).

	commercial handline southeast (statistical areas 1-7)																			
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	5	0	2	0	0	0	0	0	0
12	0	0	23	0	1	1	4	0	0	0	0	0	0	1	1	0	0	0	0	0
13	0	1	19	0	19	1	16	2	9	0	0	1	0	6	0	0	0	0	0	0
14	0	0	6	3	15	3	62	2	7	1	0	0	2	4	6	3	0	1	0	39
15	0	0	6	1	5	6	58	1	14	1	0	0	4	9	35	99	0	40	2	95
16	8	4	7	4	6	6	64	0	8	2	11	2	14	16	90	199	9	37	6	136
17	25	11	13	9	9	7	58	0	9	2	11	0	10	29	52	163	18	30	19	105
18	46	14	14	10	9	4	36	4	17	1	12	1	16	47	37	124	19	27	26	71
19	102	20	7	9	5	16	11	6	12	6	7	0	14	21	31	160	32	33	32	70
20	133	30	8	5	4	10	11	4	10	4	6	3	8	13	16	103	31	38	19	51
21	144	56	16	12	3	3	8	4	6	10	3	2	13	15	25	81	15	37	20	62
22	117	74	15	11	0	2	6	1	4	9	11	3	8	8	29	70	33	27	24	46
23	111	82	18	12	0	1	6	3	7	5	3	4	5	15	12	45	15	24	18	32
24	90	109	14	14	1	6	3	4	6	12	0	2	5	5	12	32	15	31	41	13
25	36	88	26	7	1	0	2	4	4	9	4	1	4	4	3	34	12	24	28	11
26	28	101	32	12	2	3	7	1	2	2	2	3	2	7	11	31	6	19	29	14
27	10	96	29	7	4	1	8	1	5	3	2	1	2	3	6	11	6	14	25	11
28	5	67	34	10	5	1	7	4	0	0	1	0	1	3	7	10	4	8	24	8
29	3	40	30	15	3	1	4	0	1	0	0	0	1	0	10	5	5	3	19	3
30	1	19	13	8	3	1	2	0	2	0	0	0	0	2	6	2	1	1	7	2
31	2	8	7	7	1	0	3	0	1	0	1	1	0	4	0	3	5	0	2	0
32	0	8	5	4	4	1	2	0	1	0	1	0	0	0	0	2	1	0	0	1
33	0	1	4	7	2	2	1	0	0	0	3	0	0	1	1	1	2	0	0	0
34	3	6	2	4	3	1	2	0	1	1	3	3	0	0	0	1	2	0	0	0
35	8	9	10	4	4	1	1	0	0	0	1	0	0	0	0	0	3	0	0	0
36	3	17	8	3	2	0	2	0	0	0	1	2	0	0	0	0	1	0	0	0
37	8	13	4	2	0	0	1	1	0	2	1	0	0	0	0	0	0	0	0	0
38	4	10	0	4	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
39	1	4	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40+	0	6	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
total	888	894	373	185	114	78	386	42	126	70	84	44	109	215	390	1179	235	394	341	770

commercial handline northeast (statistical areas 8-12)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
9	2	0	10	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10	30	0	7	3	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	76	0	24	4	1	46	2	5	1	2	0	0	0	1	0	0	0	0	0	0
12	93	2	221	114	10	23	13	4	16	1	1	3	0	0	1	0	0	0	0	1
13	103	9	236	163	30	39	232	852	395	188	25	18	0	1	1	0	1	2	1	3
14	107	15	124	125	28	41	331	998	369	362	478	361	80	21	73	53	72	84	94	105
15	147	18	53	56	9	54	260	683	229	378	921	366	487	343	839	498	523	654	802	922
16	181	23	44	49	8	57	248	476	178	402	805	317	564	504	1021	639	802	703	1038	1049
17	140	24	31	44	11	25	169	321	138	329	528	285	337	334	580	574	595	597	881	756
18	85	28	11	21	14	23	117	173	95	216	298	256	241	281	390	477	481	522	554	488
19	75	38	5	21	5	29	128	138	42	157	195	210	182	177	200	348	373	406	340	404
20	49	27	14	6	7	23	121	81	39	77	188	135	127	152	117	244	248	307	223	264
21	36	23	8	6	7	14	83	38	11	68	132	129	134	107	94	197	236	242	216	215
22	41	18	11	5	12	7	52	29	25	49	99	97	123	78	67	139	178	168	161	124
23	38	7	8	5	7	8	49	11	5	36	68	75	97	59	52	95	155	146	126	103
24	24	9	6	6	5	4	37	21	2	30	60	56	98	50	31	64	130	119	103	79
25	14	11	1	4	5	1	32	21	1	21	43	42	64	33	33	39	92	91	71	60
26	8	9	0	2	3	2	29	15	8	19	30	36	55	26	32	51	92	70	61	66
27	10	1	3	0	2	3	22	23	2	11	24	31	42	37	28	41	60	59	38	56
28	6	3	0	4	1	5	7	13	1	15	21	19	28	34	28	51	51	50	42	27
29	4	4	0	1	1	1	9	3	0	12	18	21	20	17	14	32	29	43	33	32
30	9	3	0	0	1	4	4	10	0	9	12	13	15	11	9	15	21	25	20	22
31	6	4	0	0	0	0	6	6	2	2	7	20	13	11	12	10	10	19	21	15
32	3	8	0	0	0	1	14	3	2	5	5	14	8	1	5	8	9	9	9	8
33	7	5	0	1	0	2	2	3	0	1	2	7	4	3	12	2	5	9	8	3
34	7	4	0	0	0	2	5	2	2	1	1	7	5	0	5	6	2	5	4	6
35	7	2	1	0	0	2	0	0	0	0	2	2	3	1	4	4	1	1	1	1
36	3	1	0	0	0	0	5	0	0	1	1	2	0	0	2	4	0	2	0	3
37	0	0	0	0	0	0	2	1	0	0	0	3	0	0	1	0	0	1	0	1
38	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	1	0	0	0	0
39	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	2	0
40+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
total	1312	296	818	640	167	443	1982	3930	1567	2392	3964	2527	2728	2282	3651	3592	4167	4335	4849	4814

Appendix 1. Table 6. continued.

commercial handline west

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	28	4	2	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
10	86	13	1	1	3	1	5	3	2	0	0	0	0	0	0	1	0	0	1	0
11	189	20	2	1	2	41	9	11	1	1	0	0	0	0	0	1	0	0	1	0
12	245	274	71	6	9	59	47	72	31	0	3	1	2	0	4	0	2	1	2	0
13	389	640	442	124	220	183	813	1092	1097	292	37	12	0	3	4	0	0	3	11	11
14	389	715	518	195	234	239	1222	1622	2220	952	511	438	82	41	73	57	47	52	218	308
15	284	534	372	132	98	189	998	1067	1990	1157	1093	885	1086	1558	1146	541	659	691	1589	1704
16	330	431	269	87	174	210	1023	932	1463	1226	1053	904	1666	2003	1836	979	895	904	1689	1786
17	269	239	198	59	77	160	705	622	1041	1147	846	778	1158	1719	1564	775	700	759	1317	1292
18	170	170	115	44	79	123	503	563	683	810	627	534	873	1121	983	636	476	531	847	929
19	173	140	150	44	47	63	453	445	503	809	488	446	718	954	917	498	372	436	620	648
20	105	116	75	30	53	95	353	309	279	507	326	303	527	769	722	345	258	260	403	453
21	86	132	78	19	55	54	184	233	232	438	249	288	455	709	646	331	173	221	296	328
22	68	95	61	14	29	51	176	142	162	286	241	283	345	553	451	279	118	162	239	249
23	28	84	44	6	18	37	114	121	106	223	183	210	207	383	371	221	87	124	185	194
24	36	86	49	14	27	23	102	114	137	203	160	211	190	333	304	213	93	100	180	175
25	38	67	45	5	22	36	71	78	72	111	131	154	111	220	212	152	86	75	135	129
26	41	70	34	13	25	35	66	87	68	98	75	137	95	203	225	133	68	64	111	101
27	47	55	23	4	13	8	37	47	46	60	100	142	108	164	164	125	50	56	102	87
28	14	35	21	4	8	17	42	44	51	53	56	101	98	143	146	112	56	49	69	64
29	20	57	24	7	7	10	43	48	49	63	53	97	118	144	111	91	40	45	49	39
30	24	42	10	3	12	4	16	51	29	30	27	91	75	126	86	64	37	36	29	43
31	16	64	29	1	4	4	10	44	32	37	31	56	51	82	87	63	23	20	31	18
32	11	50	18	3	7	2	10	36	17	19	14	18	19	64	62	28	11	16	14	14
33	18	33	20	5	7	2	11	31	9	11	16	6	5	29	26	17	6	5	10	8
34	12	37	24	3	5	0	11	29	10	7	10	4	2	13	22	5	2	1	4	7
35	7	14	17	1	1	0	6	15	4	7	8	7	4	5	8	0	3	3	3	1
36	2	8	7	0	1	0	6	20	3	6	5	4	1	4	6	1	1	2	2	5
37	2	3	3	0	1	1	3	6	1	2	1	3	0	2	1	1	0	0	0	0
38	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	2	0	0	1	0
39	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
40+	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
total	3127	4228	2722	825	1238	1647	7040	7886	10341	8555	6344	6113	7998	11345	10177	5671	4263	4616	8159	8593

Appendix 1. Table 6. continued.

commercial longline east

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0
14	0	0	2	0	1	0	3	1	8	1	0	3	0	0	0	1	0	0	0	0
15	0	0	4	0	0	0	6	0	8	0	1	0	0	0	0	1	0	0	2	0
16	10	1	7	3	0	0	30	2	2	0	0	0	0	0	2	2	1	0	1	1
17	6	1	15	4	6	0	19	2	25	1	1	1	2	5	2	8	1	0	5	11
18	17	11	27	11	10	1	7	4	9	2	3	2	2	2	4	13	4	1	10	18
19	31	7	33	6	14	2	7	7	5	6	0	9	3	0	6	39	6	2	12	26
20	35	21	40	10	10	2	4	11	7	6	1	7	4	2	8	29	15	11	12	36
21	75	28	46	12	9	2	9	7	4	13	4	17	7	0	10	29	25	18	11	50
22	135	44	38	19	16	1	10	9	10	17	7	20	10	1	13	32	29	21	14	27
23	121	80	47	29	13	1	20	6	5	16	9	11	14	4	12	19	40	26	15	30
24	112	95	72	20	13	2	10	7	5	23	11	7	11	1	17	23	50	27	15	17
25	74	83	63	30	12	1	26	9	5	11	4	8	5	2	11	16	31	31	20	14
26	40	106	91	28	9	3	21	15	9	13	12	2	9	5	7	14	27	31	25	13
27	31	84	81	21	8	2	17	10	5	8	14	7	0	6	6	7	18	19	23	18
28	10	67	106	35	5	1	14	7	8	10	4	1	2	6	18	5	8	18	30	14
29	18	24	80	26	7	1	9	4	5	1	2	5	5	3	20	5	6	10	23	13
30	6	21	60	25	5	0	9	4	3	2	2	4	1	4	36	3	3	5	18	11
31	20	16	55	22	4	2	14	1	2	1	3	7	1	5	28	7	7	3	18	2
32	16	5	23	12	6	1	8	2	3	2	1	4	1	11	24	7	4	2	7	4
33	18	15	20	11	8	1	13	4	4	4	3	2	0	5	10	8	1	2	7	2
34	21	9	21	20	13	1	8	9	2	2	2	2	0	2	5	11	0	1	3	0
35	21	12	22	11	6	1	10	3	5	3	3	6	1	3	2	5	2	1	7	2
36	26	26	18	13	11	1	5	2	0	1	5	3	0	0	2	5	3	0	4	2
37	10	20	18	16	2	2	6	2	4	0	3	2	0	1	2	1	1	1	0	1
38	5	14	13	5	1	1	2	0	1	0	0	3	1	0	1	0	1	0	0	0
39	6	6	6	7	0	0	5	0	2	0	0	0	0	0	0	0	0	0	0	0
40+	0	5	3	1	0	0	3	2	1	0	0	0	0	0	0	0	0	1	0	0
total	864	801	1011	397	189	29	295	130	158	143	95	133	79	68	246	290	283	231	282	312

Appendix 1. Table 6. continued.

commercial longline west

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	2	2	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
12	7	4	2	1	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0
13	17	5	26	0	29	37	76	29	4	0	0	0	0	0	0	0	0	0	0	0
14	36	11	23	7	15	42	45	36	16	1	0	0	0	0	0	0	0	0	19	0
15	26	43	15	0	2	13	56	16	7	6	0	0	3	0	4	2	10	0	65	0
16	26	43	15	8	8	37	28	19	4	11	0	0	1	0	6	15	16	0	88	0
17	34	40	13	4	12	28	36	12	7	7	0	1	0	0	15	28	12	1	81	0
18	24	35	13	0	17	35	12	5	2	4	0	4	0	0	7	17	2	3	83	0
19	26	44	10	2	9	10	14	11	5	4	0	1	0	0	6	6	3	3	79	0
20	39	40	8	2	14	26	9	10	2	1	0	1	1	1	12	5	8	6	60	2
21	24	32	10	4	9	27	7	9	1	4	0	3	0	3	10	3	19	8	44	6
22	17	31	10	5	15	31	5	7	6	2	1	6	0	0	18	7	27	5	37	2
23	19	24	2	2	3	3	9	7	1	1	1	10	0	1	22	4	27	11	27	6
24	16	20	4	1	7	18	15	5	9	0	1	16	0	4	42	15	25	15	14	12
25	13	25	4	4	5	15	10	4	5	0	0	9	0	4	28	23	25	10	28	18
26	13	23	5	2	4	16	11	8	4	1	0	5	0	5	28	25	43	10	21	12
27	16	14	5	1	2	2	2	47	1	2	0	2	1	9	29	25	61	10	25	18
28	4	15	4	0	1	6	5	20	10	0	0	6	0	8	28	18	61	11	27	28
29	27	11	4	3	2	12	4	17	10	2	0	2	0	12	22	6	60	11	39	33
30	28	23	6	1	1	7	6	9	8	2	0	3	1	3	23	7	37	28	35	32
31	52	34	6	3	3	2	3	6	8	1	0	0	1	6	26	5	32	26	37	30
32	85	43	8	2	0	1	5	37	16	1	0	1	1	6	15	1	29	19	26	22
33	74	45	13	4	0	1	1	5	1	7	0	0	2	0	7	4	21	7	16	24
34	67	48	13	3	0	3	3	9	3	1	0	4	0	1	7	2	14	5	7	5
35	30	19	6	2	0	1	2	8	3	0	0	0	0	0	1	0	7	0	4	7
36	11	11	3	0	0	0	4	1	0	2	0	0	0	0	0	0	1	1	0	2
37	3	4	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	1	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40+	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
total	737	689	229	62	158	373	408	338	134	61	3	74	11	63	358	218	540	192	862	259

Appendix 1. Table 6. continued.

recreational headboat east

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
9	0	1	2	3	0	6	0	0	0	0	4	0	0	0	0	0	0	0	0	0
10	0	0	4	7	1	10	1	1	4	0	4	0	1	1	0	1	1	0	0	0
11	1	1	15	16	8	29	3	2	1	2	1	0	0	1	0	0	1	0	0	0
12	1	0	19	23	18	46	4	19	15	9	1	1	0	0	1	0	0	1	0	0
13	1	0	24	26	38	37	75	116	128	61	60	4	4	3	1	0	0	0	0	0
14	2	0	16	25	29	16	67	94	146	106	287	31	43	103	52	4	1	0	0	1
15	1	1	18	22	23	20	63	91	144	77	336	100	112	430	585	113	73	16	27	14
16	1	0	16	13	20	18	40	56	128	41	197	100	101	265	660	210	362	195	354	300
17	3	1	11	9	17	20	19	37	79	27	154	64	80	123	433	212	251	147	364	313
18	0	1	11	12	6	21	14	43	42	28	128	42	40	57	203	118	150	68	196	168
19	3	2	10	7	11	22	13	32	32	23	104	19	47	48	113	79	95	75	156	99
20	0	0	5	6	4	8	6	21	20	25	68	18	18	31	53	45	61	50	66	58
21	2	2	3	6	3	10	9	11	10	15	48	17	20	16	20	34	36	36	21	46
22	2	2	0	6	6	6	5	14	17	11	48	11	9	15	16	24	26	23	16	28
23	0	1	1	1	3	5	5	7	8	6	35	10	7	17	9	15	22	7	9	26
24	1	0	4	0	5	3	4	3	5	1	40	7	10	14	13	17	21	8	12	17
25	0	0	2	3	0	0	0	3	5	3	34	3	3	8	5	4	8	3	12	9
26	0	1	1	0	1	3	1	4	5	4	19	1	5	5	6	5	3	4	8	5
27	0	1	0	0	1	4	1	5	2	2	18	4	6	2	4	4	12	4	1	4
28	0	0	0	0	0	1	0	1	2	0	15	1	3	3	2	1	3	9	0	3
29	0	0	2	1	1	0	1	0	0	0	16	2	2	1	2	0	5	2	4	6
30	0	0	1	2	0	1	1	0	1	0	9	2	1	1	2	1	4	2	1	0
31	0	0	1	1	1	0	0	0	0	0	4	3	1	0	0	2	0	0	1	1
32	0	0	0	1	0	0	0	0	0	0	3	0	0	0	1	0	0	3	1	1
33	0	0	0	0	0	0	0	0	1	0	2	0	1	1	0	0	0	1	0	0
34	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40+	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
total	18	14	166	193	196	286	333	560	795	441	1636	443	514	1145	2181	889	1135	654	1250	1100

Appendix 1. Table 6. continued.

recreational charter east

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	10	0	1	2	0	0	0	0	1	0	0	0	0
9	0	0	0	2	2	0	0	17	7	0	6	1	0	2	0	0	0	0	0	0
10	0	0	1	10	8	0	1	36	5	2	6	1	0	0	0	2	1	0	0	0
11	3	0	7	48	19	3	4	96	23	12	19	5	0	0	2	4	4	2	0	0
12	12	0	9	25	31	3	3	200	140	67	24	8	2	4	4	5	8	2	1	2
13	37	1	15	39	54	22	32	3584	2946	1840	223	33	1	3	9	1	10	11	10	7
14	50	13	39	66	58	39	80	7140	4461	2695	1450	110	12	50	78	54	24	10	18	38
15	76	5	14	61	31	16	55	7236	3870	1823	2197	459	51	347	505	795	548	342	441	852
16	56	8	31	58	33	25	33	4541	2370	1223	2130	348	30	348	873	1645	2159	1763	2345	3925
17	46	0	10	33	46	15	27	2959	1602	815	1728	224	42	168	643	1499	1915	1285	2598	3675
18	34	1	13	30	19	8	13	1421	970	560	1184	137	29	85	380	1075	1147	846	2097	2607
19	41	4	10	27	23	13	11	989	757	463	865	120	38	52	259	850	783	654	1296	1759
20	21	0	4	8	15	6	5	495	483	298	496	89	17	44	143	637	496	469	720	1146
21	12	0	4	12	2	1	1	287	312	239	341	77	14	32	73	445	382	399	470	899
22	14	0	2	11	1	2	1	154	177	157	303	53	11	26	52	347	243	253	274	578
23	6	0	0	10	0	0	2	93	109	112	208	49	15	25	36	219	138	197	224	434
24	14	1	3	10	1	0	1	72	86	76	170	31	7	12	21	126	117	137	201	322
25	14	1	1	4	3	0	2	54	46	69	131	27	7	9	21	74	70	94	151	226
26	8	0	0	4	0	1	2	43	51	57	95	34	2	15	21	49	66	74	126	172
27	3	0	2	3	0	0	1	19	21	44	72	24	2	3	16	39	46	60	89	144
28	4	1	2	2	0	0	0	11	17	21	48	21	4	10	11	30	32	46	69	139
29	4	0	1	1	2	1	0	12	13	17	28	13	4	4	11	19	22	33	42	82
30	9	0	0	3	0	0	1	16	14	13	18	10	3	2	2	9	7	23	42	73
31	4	0	0	0	0	0	1	4	12	3	6	6	5	2	4	6	4	11	22	45
32	0	0	0	0	0	0	0	2	5	4	3	1	0	2	1	4	1	7	11	27
33	0	0	1	0	0	0	0	3	3	0	3	2	0	0	1	5	1	2	2	15
34	0	0	0	0	0	0	0	2	0	3	1	0	1	2	0	4	0	2	8	10
35	0	0	0	1	0	1	0	2	1	1	2	2	1	0	0	3	1	0	5	3
36	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	2	2	1	6
37	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	4
38	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	2	4
39	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
40+	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
total	468	35	169	468	348	156	276	29500	18503	10616	11782	1886	298	1247	3166	7948	8228	6725	11266	17198

Appendix 1. Table 6. continued.

recreational private east

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	5	1	0	2	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
10	3	0	0	5	0	0	0	0	1	0	0	0	0	0	0	9	0	0	0	0
11	1	0	0	13	0	0	2	0	3	3	0	0	0	0	0	6	0	0	0	0
12	3	1	0	10	0	1	8	4	4	5	1	0	2	0	0	0	1	0	0	0
13	1	0	0	10	4	3	9	28	56	14	5	2	0	0	0	1	1	4	0	0
14	3	1	0	17	5	4	8	53	87	30	10	6	5	4	3	4	1	8	2	7
15	5	0	3	32	2	2	13	75	130	27	26	19	10	13	9	46	18	24	17	35
16	0	0	3	21	7	1	3	46	77	46	27	22	20	25	23	74	71	49	149	143
17	0	0	3	16	1	0	3	32	53	40	33	15	15	30	32	75	61	76	175	228
18	0	0	2	5	3	0	2	17	31	16	10	13	13	20	28	91	66	60	122	165
19	1	3	1	3	2	0	1	9	21	5	10	12	10	26	14	104	60	46	95	135
20	0	3	0	9	3	1	2	3	13	11	12	8	5	12	4	85	30	42	85	113
21	0	1	0	19	1	0	0	4	29	13	8	2	6	11	7	73	30	23	60	86
22	0	1	1	4	0	0	0	1	7	2	2	0	4	10	2	50	25	31	62	49
23	0	0	0	1	0	0	2	1	8	7	6	4	3	5	3	40	12	21	36	47
24	0	0	0	3	1	0	0	1	2	4	5	2	6	3	0	19	13	19	32	30
25	0	0	1	3	0	0	2	0	5	2	5	1	0	2	3	16	10	12	18	31
26	1	0	0	0	0	0	2	0	3	3	0	2	2	1	0	12	7	21	29	25
27	0	0	1	0	0	0	0	0	1	1	2	0	1	3	2	11	5	17	7	19
28	0	0	0	0	3	1	0	2	0	1	2	1	0	2	3	9	5	19	14	22
29	0	0	0	0	0	0	0	0	1	0	1	2	0	4	3	12	4	9	18	15
30	0	0	1	0	0	0	0	0	1	1	2	1	0	0	2	4	2	9	12	9
31	0	0	0	1	0	0	0	0	1	0	1	1	1	4	2	3	3	1	5	9
32	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0	0	0	1	7	6
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	2	6	7
34	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	1	4
35	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
38	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	1	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
total	26	11	16	175	32	13	57	277	535	231	169	113	106	179	140	752	426	496	954	1191

Appendix 1. Table 6. continued.

recreational headboat west

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
7	6	0	12	4	2	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0
8	52	1	91	37	13	17	1	0	0	0	0	0	2	0	0	0	0	0	0	0
9	235	4	367	223	91	72	6	4	1	0	0	0	0	0	1	0	0	0	0	0
10	521	8	934	572	386	464	36	23	2	3	1	0	2	0	1	0	0	0	0	0
11	856	30	1142	1006	644	924	145	42	35	24	4	3	0	0	3	0	0	0	0	0
12	961	17	1125	1196	825	1188	533	180	116	123	19	4	4	0	1	0	0	0	0	0
13	748	22	837	1017	732	1122	1063	1170	865	921	309	8	10	4	5	0	1	3	3	2
14	387	43	594	734	591	859	1018	1535	1904	1599	1490	354	56	41	184	11	17	35	11	4
15	197	11	330	395	422	643	625	966	2086	1508	1822	1603	778	592	1147	221	149	244	112	115
16	106	17	224	244	297	328	431	529	1422	1139	1211	1954	1228	727	1345	360	755	547	363	538
17	72	21	153	143	179	223	204	537	831	652	740	1381	956	552	1067	363	729	424	456	424
18	43	11	109	128	123	147	141	241	403	469	411	902	592	417	685	445	445	285	353	331
19	21	7	74	62	84	80	91	169	316	355	297	607	521	368	487	454	315	253	324	257
20	26	5	47	51	39	43	80	69	182	276	205	341	299	293	316	348	204	194	207	125
21	9	1	51	28	37	35	49	26	111	224	175	213	215	243	242	248	134	117	148	92
22	10	3	42	27	43	27	17	23	90	138	122	175	142	198	250	192	82	105	97	45
23	8	0	19	21	26	10	16	33	85	108	96	130	95	156	145	119	73	73	91	37
24	3	0	14	22	17	9	10	14	54	125	87	125	73	93	135	86	72	56	64	39
25	5	0	15	14	15	6	9	9	45	93	66	98	41	75	91	85	40	39	49	20
26	3	0	9	12	19	12	8	8	40	54	38	59	41	59	96	59	39	43	48	18
27	0	0	12	10	24	18	8	12	42	60	48	67	40	59	79	47	41	29	38	29
28	2	0	8	6	35	17	6	10	37	30	42	84	32	30	76	50	24	20	24	17
29	0	0	14	8	19	9	4	5	37	37	37	94	28	20	73	42	24	28	18	22
30	2	0	3	8	22	10	4	10	30	32	23	74	38	26	44	47	23	12	28	17
31	2	0	6	6	12	5	0	4	18	12	19	57	33	21	34	35	13	12	18	15
32	2	0	8	3	11	7	1	5	9	8	7	20	20	5	44	38	7	3	8	20
33	0	0	2	1	6	7	3	3	2	5	4	19	8	10	19	17	4	5	9	9
34	0	0	1	3	3	1	2	1	4	4	3	10	7	4	20	8	4	2	2	4
35	0	0	3	0	3	1	2	0	6	6	2	2	2	1	7	5	0	1	3	0
36	0	0	1	0	4	0	1	0	1	1	0	1	2	1	11	3	0	1	4	0
37	0	0	3	1	1	0	3	1	0	0	0	0	0	1	5	1	0	0	1	0
38	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	1	1
39	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
40+	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
total	4277	202	6251	5982	4726	6287	4517	5629	8775	8006	7278	8386	5270	3996	6614	3284	3195	2531	2480	2181

Appendix 1. Table 6. continued.

recreational charter west

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	8	20	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	7	18	63	30	10	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0
12	9	42	54	42	2	1	2	7	9	4	1	0	0	0	0	0	0	0	0	0
13	15	42	52	33	2	2	9	65	133	36	9	3	0	1	2	0	0	1	1	0
14	9	23	77	59	5	8	19	84	227	87	19	14	5	1	5	2	0	3	2	10
15	13	20	33	37	1	5	4	50	143	100	29	42	18	5	30	18	8	33	29	67
16	51	12	15	18	0	3	6	26	78	44	27	39	40	18	37	16	45	91	119	146
17	48	6	18	9	0	2	2	16	86	19	21	31	35	17	42	21	33	62	114	160
18	12	4	4	6	0	0	1	9	44	26	15	22	19	15	50	8	15	47	92	105
19	15	4	1	2	1	1	1	9	42	25	6	25	27	15	29	13	18	35	51	50
20	8	1	1	5	0	0	2	3	19	9	3	6	12	12	27	12	12	17	55	41
21	3	1	1	3	1	1	0	3	16	16	3	6	11	17	20	9	9	12	29	47
22	5	1	1	3	1	2	0	7	12	8	4	4	6	12	12	5	7	19	22	21
23	4	0	1	0	2	0	0	6	9	6	4	1	7	13	10	4	5	4	15	17
24	2	0	1	1	0	0	1	4	6	5	10	7	5	6	5	1	1	4	14	11
25	3	2	1	0	1	0	0	3	3	8	3	6	4	1	9	0	11	4	13	15
26	2	3	1	1	0	1	0	1	7	5	3	2	4	0	7	5	4	3	14	25
27	0	0	2	0	0	1	0	4	10	3	6	2	5	6	4	8	4	2	12	25
28	0	0	0	1	0	0	0	1	9	2	5	1	3	0	3	0	3	0	15	33
29	5	2	0	4	1	0	0	3	5	0	3	7	3	1	4	1	1	1	10	24
30	0	0	0	0	0	0	0	3	7	1	2	1	3	1	0	4	4	1	9	16
31	1	3	1	1	0	0	0	5	3	2	1	3	1	0	0	1	1	1	4	8
32	0	0	3	0	0	0	0	3	3	0	2	2	0	0	1	3	1	0	2	4
33	0	1	1	0	0	0	0	0	0	1	1	1	0	1	0	1	1	0	2	2
34	0	0	1	0	1	0	0	1	3	0	1	0	0	1	0	0	1	0	0	1
35	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40+	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
total	219	196	358	259	29	29	48	314	875	407	180	226	208	143	297	132	187	340	624	828

Appendix 1. Table 6. continued.

recreational private west

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	9	5	2	5	1	4	1	0	0	0	2	0	0	0	0	0	0	0	0	0
8	26	15	16	30	10	12	6	3	1	0	2	1	1	0	1	0	1	0	0	0
9	50	45	29	63	29	19	12	9	1	4	5	1	1	0	2	0	3	1	0	0
10	31	54	32	56	41	32	29	9	1	5	1	3	1	0	0	1	3	0	2	0
11	37	116	64	65	56	33	40	18	2	6	11	8	0	0	1	3	4	0	1	0
12	54	152	64	36	91	52	58	44	36	51	26	15	2	4	13	7	1	1	0	0
13	60	119	66	60	87	64	75	166	104	183	119	64	5	14	19	8	10	3	4	2
14	46	63	48	48	66	57	49	107	137	137	218	200	67	72	95	50	55	33	30	50
15	29	45	31	27	33	39	44	58	118	106	175	264	151	218	207	171	230	175	149	150
16	24	14	17	19	25	25	30	47	61	72	119	205	154	238	143	137	185	204	294	220
17	12	13	5	8	17	11	9	14	36	37	83	145	167	183	142	92	149	155	237	182
18	10	8	7	8	16	11	6	11	20	41	68	114	148	144	114	88	100	86	185	180
19	5	3	9	5	8	7	8	6	36	42	53	95	100	128	113	52	85	56	138	112
20	11	10	5	3	8	5	5	10	31	52	40	59	72	85	76	40	66	46	101	90
21	5	1	5	6	2	0	6	3	21	39	27	47	41	75	53	32	30	19	71	80
22	6	2	3	3	3	3	7	7	11	36	21	27	40	42	46	29	21	13	49	60
23	4	6	1	2	0	0	2	4	6	20	23	32	27	27	29	15	18	13	28	50
24	4	5	2	1	7	5	1	1	2	15	14	25	28	22	31	14	16	9	22	68
25	2	3	2	2	4	3	4	4	3	6	17	21	12	22	33	14	5	8	21	48
26	2	4	0	1	2	0	1	2	0	6	19	11	8	16	22	10	5	5	21	28
27	1	2	1	2	1	1	0	4	3	4	14	16	5	15	25	11	10	5	11	36
28	1	0	0	3	4	2	0	2	0	2	14	11	5	5	16	8	11	6	11	28
29	1	0	1	1	0	1	0	0	1	2	10	12	10	12	9	16	6	7	8	35
30	3	0	2	1	0	0	0	0	0	2	5	5	8	7	8	6	3	5	7	30
31	1	0	0	0	0	1	0	0	1	0	1	2	3	2	10	6	5	6	2	22
32	2	0	1	0	1	1	0	0	1	1	0	0	0	2	4	4	1	6	6	12
33	2	0	1	0	1	0	1	0	2	0	1	1	1	0	5	1	1	2	2	12
34	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	1	0	0	1	4
35	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
total	439	685	414	455	514	388	394	529	635	869	1088	1385	1057	1333	1222	818	1025	864	1401	1505

Appendix 1. Table 7. Derived age composition calculated from landings (commercial, weight) and catch (recreational, n fish), length frequency of the landed catches, modeling of discards and estimates of mortality rates and recruitment patterns. This set of derived age composition was calculated assuming a single Gulf wide stock and a natural mortality rate of 0.59.

commercial handline landings east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	17	55960	155774	92844	62684	12381	17672	5637	3454	3082	1732	2028	5692	4634	23308
1985	0	0	4655	24365	66252	49092	37769	8657	14273	5153	3465	3310	1953	2369	6834	35007
1986	0	284	315837	52028	29937	28764	13689	9120	1988	3196	1137	757	717	420	508	8798
1987	0	0	5015	252289	30016	23130	25199	12523	8470	1862	3014	1083	726	692	408	9018
1988	0	0	48326	59944	53315	8325	10866	17458	11132	8833	2158	3753	1419	989	968	13848
1989	0	0	52215	87984	25090	20171	3019	4054	6966	4808	4114	1074	1969	777	561	9094
1990	0	2	18072	93982	40497	11089	11082	2000	3056	5711	4161	3695	989	1848	741	9384
1991	0	0	8946	65421	62889	18086	4053	3776	675	1040	1962	1440	1284	345	645	3446
1992	0	0	629	132116	17189	15857	6041	1648	1721	329	530	1031	773	704	191	2300
1993	0	0	1755	31828	80556	6471	7342	3756	1314	1659	365	653	1375	1097	1043	4062
1994	0	0	586	72342	29500	47339	3931	4778	2617	976	1305	301	562	1221	999	4836
1995	0	0	2304	9951	15366	3485	6672	692	1007	636	266	390	97	191	436	2274
1996	0	0	1206	21681	10515	11694	2986	6427	720	1090	702	295	431	106	209	2817
1997	0	0	1446	11822	19206	4903	4980	1288	2891	340	538	359	156	233	59	1697
1998	0	0	1437	68054	23001	13826	3292	3673	1052	2583	329	558	394	179	278	2259
1999	0	0	1227	28670	72345	14506	10233	2923	3692	1141	2938	389	674	484	223	3141
2000	0	0	1429	24099	46166	58784	11109	8274	2506	3325	1066	2825	383	676	493	3398
2001	0	0	7976	30801	45108	39205	47390	9121	6924	2147	2921	958	2593	359	642	3685
2002	0	0	3148	126799	39266	30438	26588	35299	7330	5889	1909	2690	907	2508	353	4235
2003	0	0	9240	58672	137961	20661	16203	15416	21968	4805	4014	1342	1941	667	1872	3516

commercial handline landings west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	353	212019	392526	158817	85971	16357	24387	8238	5291	4880	2802	3328	9419	7709	39076
1985	0	0	54819	145751	129973	53785	34497	7660	12811	4726	3236	3130	1862	2272	6574	33842
1986	0	193	106987	117674	92791	89446	41593	27664	6169	10281	3797	2614	2545	1526	1874	33788
1987	0	0	65611	270528	32564	29503	36932	20297	14785	3436	5795	2145	1471	1424	849	19275
1988	0	0	98028	215390	181815	23084	27039	41689	26387	21080	5207	9152	3492	2453	2415	35067
1989	0	0	61165	274984	82054	69330	10811	14674	24790	16562	13650	3435	6101	2344	1655	25023
1990	0	67	55884	292575	122059	30084	27850	4799	7102	12938	9224	8039	2119	3906	1549	18953
1991	0	0	64877	152732	167314	60484	15936	16445	3161	5164	10228	7810	7196	1984	3786	21490
1992	0	0	1556	630615	103068	105552	44394	13275	14956	3030	5097	10245	7872	7281	2008	24890
1993	0	0	1723	147775	487449	44930	53600	27824	9780	12364	2723	4867	10244	8155	7750	29997
1994	0	0	221	238792	119934	222639	20595	27011	15542	5974	8133	1900	3557	7762	6361	30798
1995	0	0	8727	122612	226306	54701	113258	12529	18893	12073	5020	7263	1777	3449	7735	38531
1996	0	0	12297	350101	200934	208791	49134	101819	11311	17197	11135	4705	6919	1720	3382	45739
1997	0	0	20139	225841	392762	109993	119072	32140	74566	9022	14606	9921	4355	6601	1683	49640
1998	0	0	6249	375265	202671	168761	48058	58763	17611	44192	5692	9660	6813	3082	4786	38394
1999	0	0	6610	148496	423063	101360	84376	27105	36950	11968	31722	4269	7480	5410	2495	35395
2000	0	0	16794	200626	291683	329727	58539	43070	13184	17765	5778	15486	2117	3765	2759	19258
2001	0	0	57448	180550	224412	178746	205408	38674	29236	9099	12445	4103	11151	1545	2778	16008
2002	0	0	9958	432854	156540	118664	98613	125505	25262	19848	6331	8820	2948	8101	1134	13455
2003	0	0	20299	161368	463881	69579	53702	50351	70873	15347	12719	4223	6079	2080	5822	10837

Appendix 1. Table 7.

commercial longline landings east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	11	1910	6634	9019	2404	4033	1432	951	904	534	651	1885	1573	8368
1985	0	0	0	67	810	1454	1829	533	988	379	265	260	157	194	566	3012
1986	0	0	25	125	357	920	870	899	259	501	203	148	150	92	115	2169
1987	0	0	3	143	98	269	670	576	571	165	327	137	103	107	67	1753
1988	0	0	0	91	895	283	496	961	723	670	187	364	151	113	116	1921
1989	0	0	5	531	436	673	159	295	646	538	533	156	311	132	100	1879
1990	0	0	49	1001	718	364	584	146	281	626	521	512	148	294	123	1779
1991	0	0	0	38	264	253	121	179	43	80	174	142	138	39	78	480
1992	0	0	0	201	50	76	47	20	28	7	14	31	26	26	8	113
1993	0	0	5	29	452	123	246	168	69	97	23	43	95	78	76	313
1994	0	0	1	13	27	181	34	66	48	22	34	9	18	41	35	193
1995	0	0	12	30	160	71	194	25	45	33	16	25	7	14	33	187
1996	0	0	0	18	77	242	94	243	30	48	32	14	21	5	11	148
1997	0	0	0	15	29	18	42	19	64	10	19	15	7	12	3	108
1998	0	0	0	28	31	54	28	55	23	71	11	20	15	7	12	106
1999	0	0	1	30	293	105	103	36	54	19	56	8	15	11	5	87
2000	0	0	0	12	108	417	133	126	43	62	21	58	8	15	11	80
2001	0	0	0	4	61	178	418	114	105	37	54	18	52	7	13	82
2002	0	0	1	96	74	132	229	490	140	139	52	82	30	88	13	171
2003	0	0	1	55	488	150	172	206	342	83	75	26	40	14	41	81

commercial longline landings west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	2187	10389	7179	5723	1652	3785	1807	1488	1633	1060	1375	4153	3567	20055
1985	0	0	505	5794	12319	7992	6543	1773	3560	1525	1169	1229	777	991	2964	16372
1986	0	0	7762	14955	14949	17272	9420	7639	2102	4182	1765	1339	1397	881	1123	21860
1987	0	0	1525	20452	4577	6301	10900	7816	7160	2002	3887	1597	1183	1212	755	18907
1988	0	0	30875	26292	37870	6764	9068	14599	9289	7345	1786	3088	1161	805	784	11011
1989	0	0	6172	26315	12368	14111	2593	3884	7013	4915	4197	1085	1966	767	548	8550
1990	0	3	6770	11434	3665	1041	1202	250	428	874	682	637	177	341	140	1877
1991	0	0	719	1027	1195	610	278	463	124	252	575	483	475	137	270	1661
1992	0	0	2	517	93	173	137	69	113	30	60	138	116	116	34	475
1993	0	0	1	264	1109	101	129	85	41	68	19	40	95	84	86	414
1994	0	0	0	24	254	1310	167	236	134	50	65	15	27	57	45	209
1995	0	0	0	11	195	177	665	94	157	106	46	68	17	33	75	384
1996	0	0	0	625	222	200	66	259	50	111	93	47	79	21	45	709
1997	0	0	0	21	167	164	405	179	562	82	150	111	52	82	22	689
1998	0	0	6	283	216	404	203	357	135	392	56	102	75	35	56	484
1999	0	0	0	514	3227	1246	1707	717	1114	386	1065	147	261	191	89	1282
2000	0	0	35	498	966	3482	1559	2017	865	1440	538	1587	232	433	329	2514
2001	0	0	0	21	275	891	2740	1003	1164	478	787	295	877	130	245	1593
2002	0	0	1	4173	2725	2570	2618	4252	1080	1022	375	579	209	607	89	1159
2003	0	0	0	19	528	363	799	1555	3598	1091	1140	446	721	269	802	1745

Appendix 1. Table 7. continued.

recreational harvest east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	39349	70416	73929	28793	17019	3486	5386	1838	1178	1078	614	724	2036	1658	8301
1985	0	273477	84778	71366	75123	35744	22652	4637	7024	2364	1500	1365	775	912	2566	12412
1986	0	59169	273167	51061	41270	48813	26283	18825	4283	7070	2555	1717	1635	962	1163	20164
1987	0	149112	132110	138255	15469	16581	24033	14466	11066	2635	4497	1674	1152	1117	667	15190
1988	0	130923	199450	72471	49935	6493	7847	12330	7859	6274	1544	2700	1025	717	704	10128
1989	0	118839	208316	82870	17706	15598	2726	4158	7772	5644	4976	1322	2450	974	707	11559
1990	0	161464	68645	64295	20851	5913	6735	1390	2367	4800	3714	3446	953	1825	745	9915
1991	0	76824	336824	42328	36295	14021	4044	4460	891	1483	2957	2260	2078	572	1088	6114
1992	0	133298	207508	379653	25994	25806	12119	4027	4913	1055	1855	3854	3039	2868	804	10425
1993	0	176241	574375	137256	220200	19266	24691	14020	5339	7206	1672	3114	6772	5533	5367	22040
1994	0	93687	174771	276525	56103	98820	9618	13317	8046	3229	4562	1100	2115	4718	3937	20051
1995	0	41548	290297	100165	86306	19171	39170	4308	6509	4197	1768	2594	644	1265	2868	14749
1996	0	26673	149018	205471	52453	52876	13808	31686	3833	6271	4331	1936	2989	774	1575	23343
1997	0	67474	542973	136159	96198	26028	31487	9502	24058	3112	5308	3757	1705	2653	691	21579
1998	0	14338	290962	543685	80754	46649	11939	14205	4244	10704	1389	2377	1690	770	1204	9856
1999	0	13906	161595	315484	386016	65505	43606	12091	15075	4647	12019	1601	2800	2029	940	13622
2000	0	18460	148620	194131	142592	149022	25744	18050	5268	6849	2175	5743	778	1376	1005	7000
2001	0	8825	335807	116591	95675	86128	115987	24227	19448	6277	8800	2954	8146	1142	2073	12283
2002	0	12634	170977	556775	89721	68748	64806	92241	20242	16996	5708	8281	2857	8053	1150	14373
2003	0	6535	288333	194352	274702	42048	36141	37469	57375	13322	11697	4073	6097	2154	6188	12397

recreational harvest west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	289265	363791	300893	97003	49529	9361	14113	4879	3244	3126	1885	2350	6962	5937	33835
1985	0	526201	186680	119754	89094	33631	18821	3660	5508	1890	1239	1172	692	844	2452	12989
1986	0	258142	255287	23137	16653	19334	10147	7168	1637	2745	1012	694	673	403	494	8871
1987	0	230689	141907	76083	5810	5115	6854	4040	3095	743	1280	480	333	324	195	4479
1988	0	283466	285390	61723	35494	4774	6409	11251	7895	6815	1784	3275	1292	931	936	14351
1989	0	199125	296112	91121	15767	12809	2220	3447	6597	4897	4397	1185	2222	891	651	10862
1990	0	141637	71239	65847	17755	3834	3414	585	871	1604	1158	1021	272	506	202	2540
1991	0	100427	326678	28686	24382	10454	3451	4343	971	1767	3780	3051	2927	832	1625	9830
1992	0	106231	232336	372286	22917	22153	10655	3707	4757	1071	1958	4203	3403	3280	935	12702
1993	0	152242	510109	125535	207455	18261	23212	13047	4930	6619	1531	2846	6181	5046	4894	20087
1994	0	127593	267105	295573	53205	92526	9265	13269	8240	3372	4829	1175	2273	5090	4260	21798
1995	0	41835	306342	121752	104178	23085	48555	5544	8654	5720	2454	3649	914	1809	4123	21451
1996	0	23873	154776	207021	47516	43483	10622	23329	2732	4349	2930	1281	1939	494	990	14096
1997	0	11530	271004	107692	89850	25376	29884	8591	20750	2580	4266	2947	1312	2013	518	15732
1998	0	7135	118335	238595	44441	31801	9468	12468	4000	10633	1437	2537	1848	859	1363	11646
1999	0	1696	32571	60810	80962	15894	12834	4297	6248	2163	6089	863	1580	1184	562	8672
2000	0	7564	51283	63201	49023	56713	11019	8624	2762	3871	1304	3607	507	922	689	5108
2001	0	3826	113861	32960	24056	19962	25597	5223	4160	1342	1888	636	1763	248	452	2704
2002	0	2767	38233	130567	22035	17626	17313	25525	5760	4942	1688	2480	864	2455	353	4478
2003	0	1927	82454	58323	80359	12550	11435	12663	20496	4959	4483	1593	2418	863	2496	5075

Appendix 1. Table 7. continued.

commercial handline open season discards east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	266	11	2	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	5793	1955	291	70	7	6	1	0	0	0	0	0	2
1986	0	0	0	9333	739	153	24	7	1	1	0	0	0	0	0	0
1987	0	0	0	29697	700	122	43	9	4	0	0	0	0	0	0	0
1988	0	0	0	11780	1472	48	20	14	4	2	0	0	0	0	0	1
1989	0	0	0	19163	719	118	6	3	3	1	1	0	0	0	0	0
1990	0	0	0	22464	1167	65	20	1	1	1	1	0	0	0	0	0
1991	0	0	0	17273	2048	119	8	3	0	0	0	0	0	0	0	0
1992	0	0	0	47961	727	127	14	1	1	0	0	0	0	0	0	0
1993	0	0	0	12419	3253	49	17	4	1	0	0	0	0	0	0	0
1994	0	0	0	61254	2498	789	19	10	3	1	0	0	0	0	0	1
1995	0	0	0	5217	1293	67	41	2	1	0	0	0	0	0	0	0
1996	0	0	0	14738	920	222	18	16	1	1	0	0	0	0	0	0
1997	0	0	0	7819	1651	90	29	3	4	0	0	0	0	0	0	0
1998	0	0	0	47622	2013	260	19	10	1	2	0	0	0	0	0	0
1999	0	0	0	16714	5728	254	58	7	5	1	1	0	0	0	0	0
2000	0	0	0	13168	3553	1009	62	20	3	2	1	1	0	0	0	0
2001	0	0	0	16121	3331	656	260	21	9	2	1	0	1	0	0	1
2002	0	0	0	69523	2931	508	146	84	9	5	1	1	0	1	0	1
2003	0	0	0	30135	9908	338	87	36	28	3	2	0	1	0	0	1

commercial handline open season discards west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	773	23	3	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	30940	3869	345	71	7	6	1	1	1	0	0	1	2
1986	0	0	0	28562	2898	583	86	25	3	3	1	0	0	0	0	2
1987	0	0	0	71394	1058	197	78	18	7	1	1	0	0	0	0	1
1988	0	0	0	51450	5753	153	57	38	13	6	1	1	0	0	0	2
1989	0	0	0	68821	2676	465	23	13	12	5	3	1	1	0	0	2
1990	0	0	0	80340	4044	203	59	4	3	4	2	1	0	0	0	1
1991	0	0	0	54898	6822	482	38	17	2	2	2	1	1	0	0	1
1992	0	0	0	334794	5364	1000	122	15	8	1	1	2	1	1	0	2
1993	0	0	0	72604	23346	400	141	30	5	4	1	1	1	1	1	2
1994	0	0	0	240035	12016	4348	120	64	19	4	4	1	1	2	1	4
1995	0	0	0	87080	23267	1245	817	38	30	12	3	4	1	1	2	8
1996	0	0	0	308874	21113	4637	344	302	18	16	7	2	3	1	1	10
1997	0	0	0	181401	39582	2370	813	93	114	9	10	5	2	2	0	10
1998	0	0	0	334280	21485	3768	337	175	27	42	4	5	3	1	1	8
1999	0	0	0	102275	39476	2073	555	77	55	11	20	2	3	2	1	7
2000	0	0	0	132415	26055	6523	376	120	20	16	4	7	1	1	1	4
2001	0	0	0	121586	19893	3507	1310	107	43	8	8	2	4	1	1	3
2002	0	0	0	254447	13150	2259	617	342	37	18	4	4	1	3	0	3
2003	0	0	0	87384	37280	1296	332	136	103	14	8	2	2	1	2	2

Appendix 1. Table 7. continued.

commercial longline open season discards east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	19	24	9	3	0	0	0	0	0	0	0	0	0
1986	0	0	0	35	11	5	2	1	0	0	0	0	0	0	0	0
1987	0	0	0	40	3	2	1	0	0	0	0	0	0	0	0	0
1988	0	0	0	25	27	2	1	1	0	0	0	0	0	0	0	0
1989	0	0	0	147	13	4	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	277	22	2	1	0	0	0	0	0	0	0	0	0
1991	0	0	0	15	10	2	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	87	2	1	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	14	19	1	1	0	0	0	0	0	0	0	0	0
1994	0	0	0	15	2	3	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	24	16	1	1	0	0	0	0	0	0	0	0	0
1996	0	0	0	15	7	5	1	1	0	0	0	0	0	0	0	0
1997	0	0	0	11	3	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	24	3	1	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	20	25	2	1	0	0	0	0	0	0	0	0	0
2000	0	0	0	8	9	7	1	0	0	0	0	0	0	0	0	0
2001	0	0	0	3	5	3	2	0	0	0	0	0	0	0	0	0
2002	0	0	0	62	6	2	1	1	0	0	0	0	0	0	0	0
2003	0	0	0	35	38	3	1	0	0	0	0	0	0	0	0	0

commercial longline open season discards west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	20	1	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	1723	423	55	14	2	2	0	0	0	0	0	0	1
1986	0	0	0	2878	445	112	20	7	1	1	0	0	0	0	0	2
1987	0	0	0	5956	157	43	23	7	4	1	1	0	0	0	0	1
1988	0	0	0	6483	1261	46	19	13	5	2	0	0	0	0	0	1
1989	0	0	0	6337	403	95	6	4	3	1	1	0	0	0	0	1
1990	0	0	0	2696	114	7	3	0	0	0	0	0	0	0	0	0
1991	0	0	0	378	50	5	1	0	0	0	0	0	0	0	0	0
1992	0	0	0	290	5	2	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	146	54	1	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	31	27	26	1	1	0	0	0	0	0	0	0	0
1995	0	0	0	13	23	4	5	0	0	0	0	0	0	0	0	0
1996	0	0	0	273	16	4	0	1	0	0	0	0	0	0	0	0
1997	0	0	0	18	17	4	3	1	1	0	0	0	0	0	0	0
1998	0	0	0	268	23	9	1	1	0	0	0	0	0	0	0	0
1999	0	0	0	413	314	26	11	2	2	0	1	0	0	0	0	0
2000	0	0	0	317	88	71	10	6	1	1	0	1	0	0	0	0
2001	0	0	0	16	26	18	18	3	2	0	1	0	0	0	0	0
2002	0	0	0	2328	233	50	17	12	2	1	0	0	0	0	0	0
2003	0	0	0	14	48	7	5	4	5	1	1	0	0	0	0	0

Appendix 1. Table 7. continued.

commercial closed season discards east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	134	1351	993	278	63	60	11	16	32	23	21	6	11	58
1992	0	0	59	18844	1721	1518	575	158	165	32	51	100	75	69	19	228
1993	0	0	139	3912	6785	528	604	312	109	140	31	55	117	93	88	347
1994	0	0	74	19985	4164	6126	502	612	336	126	168	39	73	159	130	633
1995	0	0	404	3034	3035	638	1210	125	184	117	49	73	18	36	82	430
1996	0	0	126	4450	1246	1284	326	702	78	120	77	32	47	13	23	310
1997	0	0	173	2730	2575	602	605	156	354	41	66	44	20	29	7	216
1998	0	0	197	18595	3559	1960	461	515	148	366	46	80	56	25	41	325
1999	0	0	148	6286	9710	1800	1252	357	452	139	361	48	83	59	28	389
2000	0	0	185	5523	6640	7847	1467	1091	331	438	141	374	50	90	65	450
2001	0	0	814	5460	5088	4114	4916	946	719	223	303	100	270	38	66	385
2002	0	0	294	21060	4072	2931	2531	3363	700	565	184	260	88	243	34	413
2003	0	0	745	8164	12297	1716	1331	1265	1803	395	330	110	160	54	154	291

commercial closed season discards west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	1222	4122	3296	1149	303	316	61	101	202	155	143	40	76	432
1992	0	0	182	121437	12813	12490	5218	1560	1761	357	602	1213	934	863	239	2963
1993	0	0	169	23255	50790	4471	5294	2744	965	1222	270	482	1015	809	769	2988
1994	0	0	35	82996	21058	35798	3264	4266	2451	942	1281	299	560	1221	1000	4842
1995	0	0	1890	49566	55212	12217	24893	2744	4134	2641	1098	1589	389	754	1692	8431
1996	0	0	1597	94499	29466	27874	6444	13303	1478	2250	1459	617	909	226	445	6033
1997	0	0	2980	66159	65289	16729	17826	4800	11137	1348	2185	1485	653	989	252	7449
1998	0	0	1066	133569	39058	29623	8298	10115	3031	7609	981	1665	1175	532	826	6630
1999	0	0	985	40879	70778	15676	12935	4161	5684	1844	4891	659	1154	835	385	5468
2000	0	0	2700	58235	52064	54746	9717	7258	2258	3084	1014	2741	377	674	496	3493
2001	0	0	7266	41592	31489	23263	26530	5035	3851	1213	1675	556	1522	211	382	2227
2002	0	0	1156	87065	20378	14397	11838	15110	3063	2425	779	1091	366	1011	142	1697
2003	0	0	2029	26790	50980	7151	5490	5206	7458	1645	1387	467	680	235	662	1258

Appendix 1. Table 7. continued.

recreational open season discards east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	1646	1439	280	15	2	0	0	0	0	0	0	0	0	0	0
1985	0	1975	429	68	10	1	0	0	0	0	0	0	0	0	0	0
1986	0	2380	3250	82	9	3	1	0	0	0	0	0	0	0	0	0
1987	0	6970	2581	428	7	2	1	0	0	0	0	0	0	0	0	0
1988	0	5516	3731	196	19	1	0	0	0	0	0	0	0	0	0	0
1989	0	11919	12533	972	30	6	0	0	0	0	0	0	0	0	0	0
1990	0	57593	6103	1177	56	3	1	0	0	0	0	0	0	0	0	0
1991	0	48789	64381	1095	130	12	1	1	0	0	0	0	0	0	0	0
1992	0	79490	31139	9881	98	23	4	1	1	0	0	0	0	0	0	0
1993	0	68619	55179	2175	453	8	4	1	0	0	0	0	0	0	0	0
1994	0	70246	25498	5716	158	62	2	2	1	0	0	0	0	0	0	0
1995	0	23904	32431	2360	308	16	12	1	1	0	0	0	0	0	0	0
1996	0	71913	48528	10057	333	72	7	8	1	1	1	0	0	0	0	0
1997	0	64256	186377	10029	906	48	20	3	5	1	1	0	0	0	0	0
1998	0	46682	99062	34942	855	121	12	8	2	4	0	0	0	0	0	0
1999	0	65476	127432	31627	5218	204	54	8	8	2	5	0	0	0	0	0
2000	0	69251	57063	17251	2277	630	47	19	4	5	2	0	0	0	0	0
2001	0	29739	122943	8119	965	195	101	11	7	2	3	0	0	0	0	0
2002	0	74995	91219	51142	1271	235	89	71	11	9	3	0	0	0	0	0
2003	0	55491	137955	14409	3127	118	42	25	28	6	5	0	0	0	0	0

recreational open season discards west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	99253	21575	3442	482	52	13	2	2	1	0	0	0	0	0	0
1986	0	3119	4259	107	12	3	1	0	0	0	0	0	0	0	0	0
1987	0	8122	3008	499	8	2	1	0	0	0	0	0	0	0	0	0
1988	0	93550	63275	3316	318	10	5	5	2	2	0	0	0	0	0	0
1989	0	67227	70692	5480	167	33	2	2	2	2	1	0	0	0	0	0
1990	0	184769	19579	3776	181	11	4	0	1	1	1	0	0	0	0	0
1991	0	107764	142204	2419	288	27	3	2	0	1	1	0	0	0	0	0
1992	0	156354	61250	19436	192	45	9	2	2	0	1	0	0	0	0	0
1993	0	163508	131481	5184	1080	20	10	3	1	1	0	0	0	0	0	0
1994	0	309688	112409	25200	696	272	10	8	3	1	2	0	0	0	0	0
1995	0	153411	208132	15145	1979	100	78	5	5	3	1	0	0	0	0	0
1996	0	75140	50707	10508	348	75	7	9	1	1	1	0	0	0	0	0
1997	0	34420	99834	5372	486	26	11	2	3	0	0	0	0	0	0	0
1998	0	49946	105988	37385	915	130	13	8	2	4	0	0	0	0	0	0
1999	0	77006	149872	37197	6136	240	64	10	9	3	6	0	0	0	0	0
2000	0	29682	24457	7394	976	270	20	8	2	2	1	0	0	0	0	0
2001	0	12191	50398	3328	396	80	41	5	3	1	1	0	0	0	0	0
2002	0	24105	29319	16438	409	76	29	23	4	3	1	0	0	0	0	0
2003	0	86988	216259	22588	4901	185	66	39	44	9	8	0	0	0	0	0

Appendix 1. Table 7. continued.

recreational closed season discards east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	3732	10907	8903	991	544	138	163	49	123	16	27	19	9	14	4
1999	0	7092	15921	8288	6626	1053	692	191	238	73	190	25	44	32	15	23
2000	0	19145	21095	12326	6291	6110	1039	725	211	274	87	229	31	55	40	19
2001	0	12749	71134	10510	6286	5383	7182	1496	1200	387	543	182	502	70	128	95
2002	0	21940	33347	38424	4203	3010	2799	3968	870	730	245	354	122	345	49	91
2003	0	11813	37906	9113	9274	1344	1143	1181	1806	419	368	128	191	68	194	28

recreational closed season discards west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	4097	11896	10305	1450	997	295	388	124	330	45	79	57	27	42	11
1999	0	7217	15133	5715	3578	613	483	161	233	81	227	32	59	44	21	34
2000	0	8852	12171	8843	5571	6213	1198	936	300	420	141	391	55	100	75	35
2001	0	5496	38431	6614	4013	3231	4118	839	668	215	303	102	282	40	72	54
2002	0	7111	12583	19367	2601	2010	1961	2886	651	558	191	280	98	277	40	74
2003	0	17468	49609	9139	7373	1036	923	1016	1641	397	358	127	193	69	199	29

Appendix 1. Table 8. Derived age composition calculated from landings (commercial, weight) and catch (recreational, n fish), length frequency of the landed catches, modeling of discards and estimates of mortality rates and recruitment patterns. This set of derived age composition was calculated assuming a natural mortality rate of 0.29.

commercial handline landings east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	19	55908	155809	92831	62656	12359	17636	5630	3449	3079	1732	2027	5694	4635	23437
1985	0	0	4649	24369	66245	49071	37699	8637	14247	5141	3460	3307	1951	2369	6831	35178
1986	0	307	318565	50457	29396	28375	13553	9039	1972	3176	1132	754	715	419	507	8815
1987	0	0	5001	254643	29080	22597	24720	12333	8353	1839	2983	1073	721	688	405	9010
1988	0	0	48071	60250	54666	8108	10620	17079	10919	8679	2123	3698	1400	976	959	13783
1989	0	0	52582	87528	25473	20745	2924	3929	6755	4674	4008	1047	1924	762	551	8994
1990	0	2	17481	95119	40252	11263	11398	1939	2963	5533	4039	3593	963	1801	724	9240
1991	0	0	8951	63903	64584	18084	4117	3873	651	1003	1890	1389	1241	334	624	3364
1992	0	0	619	132045	16842	16367	6074	1682	1770	317	510	990	745	677	185	2235
1993	0	0	1835	30969	81216	6391	7637	3804	1351	1720	355	634	1331	1062	1011	3963
1994	0	0	553	74145	27979	47120	3856	4949	2646	1002	1351	293	544	1181	967	4707
1995	0	0	2300	9567	16001	3316	6632	677	1041	642	273	405	94	186	421	2213
1996	0	0	1203	21613	10180	12291	2860	6414	707	1129	708	302	446	103	202	2724
1997	0	0	1529	11733	19139	4764	5260	1240	2898	336	559	363	159	241	57	1640
1998	0	0	1380	69742	21932	13382	3138	3827	1002	2568	323	577	397	183	287	2176
1999	0	0	1204	27920	74513	13770	9830	2763	3812	1075	2895	378	690	483	225	3025
2000	0	0	1412	23772	45416	61074	10595	7942	2359	3410	997	2758	369	686	487	3254
2001	0	0	8218	30358	44658	38812	49506	8717	6648	2016	2984	892	2515	343	647	3514
2002	0	0	3021	128836	38105	29803	26143	36687	6983	5630	1784	2734	839	2416	336	4043
2003	0	0	9405	56820	141180	20030	15773	15070	22700	4546	3812	1246	1959	612	1792	3329

commercial handline landings west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	399	211791	392659	158816	85938	16327	24330	8223	5280	4873	2800	3325	9420	7710	39283
1985	0	0	54754	145792	129982	53771	34435	7642	12785	4715	3230	3126	1860	2271	6571	34005
1986	0	200	109271	116382	92384	89058	41452	27552	6144	10249	3788	2608	2543	1524	1875	33913
1987	0	0	65522	273858	31538	28789	36182	19962	14563	3389	5729	2124	1458	1416	843	19243
1988	0	0	97546	216043	185563	22361	26312	40660	25828	20683	5117	9013	3446	2421	2393	34911
1989	0	0	61797	273909	83302	71379	10494	14259	24086	16124	13308	3353	5959	2295	1621	24693
1990	0	72	54029	296165	121238	30493	28563	4634	6858	12484	8916	7781	2053	3788	1506	18567
1991	0	0	64916	149155	171675	60491	16208	16907	3059	5000	9898	7574	6989	1929	3685	21121
1992	0	0	1499	630132	100952	108951	44670	13569	15425	2936	4933	9887	7612	7046	1945	24283
1993	0	0	1833	143702	490688	44309	55690	28152	10045	12812	2647	4724	9909	7900	7511	29260
1994	0	0	205	245047	114116	222252	20253	28034	15740	6143	8438	1849	3453	7515	6167	30009
1995	0	0	8688	117517	235230	52037	112701	12289	19570	12206	5153	7522	1726	3341	7474	37421
1996	0	0	12261	348699	194481	219613	47083	101692	11116	17820	11250	4824	7154	1667	3269	44257
1997	0	0	21495	224289	391307	106816	125671	30920	74736	8901	15169	10042	4472	6841	1633	48050
1998	0	0	6003	386414	195595	165340	46258	61681	16870	44150	5600	10017	6886	3160	4953	37070
1999	0	0	6493	144589	436057	96695	81659	25830	38434	11364	31471	4173	7708	5431	2543	34251
2000	0	0	16588	198142	287288	342885	55878	41395	12437	18268	5416	15164	2044	3830	2734	18483
2001	0	0	59238	177781	222204	177065	214729	36993	28099	8552	12729	3820	10828	1480	2803	15278
2002	0	0	9554	440073	152152	116340	97044	130497	24070	18976	5916	8963	2726	7802	1078	12844
2003	0	0	20677	156063	473968	67385	52251	49203	73221	14520	12077	3923	6136	1910	5569	10259

Appendix 1. Table 8. continued.

commercial longline landings east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	11	1910	6630	9010	2399	4023	1429	949	903	534	650	1884	1572	8408
1985	0	0	0	67	809	1453	1824	532	986	378	264	260	157	193	566	3026
1986	0	0	25	125	357	918	868	896	258	500	202	147	149	92	115	2177
1987	0	0	3	148	97	269	668	574	568	164	326	136	103	107	67	1758
1988	0	0	0	92	927	279	491	951	717	665	186	362	150	112	116	1925
1989	0	0	5	532	447	701	156	290	636	531	526	154	308	130	99	1878
1990	0	0	47	1011	717	374	610	143	277	616	513	505	146	290	122	1774
1991	0	0	0	36	270	255	124	186	42	78	170	139	135	39	76	477
1992	0	0	0	201	49	78	48	20	29	7	13	30	25	25	7	111
1993	0	0	5	28	453	121	256	170	71	101	22	42	92	76	74	306
1994	0	0	1	14	26	182	34	69	49	22	35	8	17	40	34	189
1995	0	0	12	28	166	68	193	25	47	33	16	26	7	13	32	183
1996	0	0	0	18	74	253	90	242	29	50	33	14	22	5	10	143
1997	0	0	0	15	29	18	44	19	65	10	20	15	7	12	3	105
1998	0	0	0	30	30	53	27	58	22	71	10	21	15	7	12	103
1999	0	0	1	30	304	101	100	35	57	18	56	8	16	12	6	85
2000	0	0	0	12	106	435	127	122	41	64	20	57	8	15	11	77
2001	0	0	0	4	60	176	437	109	101	34	55	17	50	7	14	78
2002	0	0	1	98	73	131	228	514	134	134	49	84	28	85	12	165
2003	0	0	1	53	501	146	168	203	356	79	72	25	41	13	39	78

commercial longline landings west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	2184	10390	7177	5717	1646	3769	1800	1481	1627	1057	1371	4145	3560	20127
1985	0	0	504	5794	12318	7988	6528	1768	3549	1520	1165	1226	775	989	2958	16430
1986	0	0	7921	14864	14930	17235	9402	7614	2093	4168	1760	1335	1395	879	1122	21927
1987	0	0	1521	20788	4476	6227	10811	7770	7118	1991	3870	1592	1179	1212	753	18964
1988	0	0	30750	26503	38940	6598	8868	14285	9110	7215	1757	3043	1145	794	776	10954
1989	0	0	6225	26214	12569	14577	2529	3795	6854	4814	4118	1065	1932	756	540	8493
1990	0	3	6599	11647	3654	1062	1243	244	418	854	667	624	174	334	137	1861
1991	0	0	720	1003	1227	614	287	485	122	248	566	476	468	135	267	1652
1992	0	0	2	517	91	179	140	72	119	29	59	135	114	113	33	470
1993	0	0	1	256	1116	99	135	87	42	71	18	39	94	83	85	411
1994	0	0	0	25	244	1316	165	245	136	51	67	14	26	55	44	202
1995	0	0	0	10	203	170	667	92	164	108	47	70	16	32	73	374
1996	0	0	0	624	216	211	63	261	49	116	95	49	82	21	44	694
1997	0	0	0	20	165	159	427	173	564	81	156	113	53	85	21	668
1998	0	0	6	293	210	399	196	376	130	394	55	106	76	36	59	469
1999	0	0	0	497	3323	1206	1679	692	1171	370	1064	144	271	193	91	1247
2000	0	0	35	493	953	3658	1514	1973	830	1505	512	1577	227	447	331	2442
2001	0	0	0	21	271	882	2884	971	1135	456	817	279	865	126	251	1542
2002	0	0	1	4262	2661	2530	2589	4452	1038	987	354	595	195	591	85	1118
2003	0	0	0	18	547	358	793	1549	3788	1052	1102	421	741	251	780	1676

Appendix 1. Table 8. continued.

recreational harvest east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	40939	69272	73574	28718	16985	3476	5370	1834	1175	1077	614	724	2038	1659	8351
1985	0	283714	79393	68963	73628	35239	22372	4587	6960	2344	1489	1357	770	907	2554	12420
1986	0	62154	274825	49442	40298	47801	25828	18524	4221	6981	2527	1700	1622	954	1155	20108
1987	0	152114	130257	139739	14940	16095	23388	14120	10812	2578	4409	1644	1132	1101	657	15039
1988	0	134917	195777	72854	51029	6266	7575	11895	7595	6072	1495	2620	996	697	687	9923
1989	0	122312	206676	81560	17862	15994	2638	4029	7531	5481	4839	1286	2387	951	691	11379
1990	0	165624	64621	64726	20718	6014	6939	1348	2296	4652	3604	3348	927	1776	727	9740
1991	0	81320	332508	41244	37429	14115	4134	4598	863	1433	2851	2180	2006	552	1051	5955
1992	0	140570	198881	380659	25605	26821	12275	4138	5087	1025	1797	3721	2938	2773	778	10147
1993	0	183263	578569	128913	217812	18839	25539	14144	5469	7448	1620	3013	6529	5341	5183	21410
1994	0	98194	165192	285812	53223	98072	9400	13739	8101	3301	4706	1064	2041	4540	3794	19422
1995	0	44667	287025	96762	90851	18424	39217	4238	6749	4242	1813	2682	624	1222	2764	14281
1996	0	28348	147572	204404	50915	55910	13307	31814	3784	6526	4394	1993	3102	753	1528	22685
1997	0	69746	551403	129346	93128	24840	32874	9073	23977	3056	5489	3788	1744	2739	668	20813
1998	0	15158	282942	558666	76343	44530	11213	14589	3987	10502	1344	2426	1682	778	1227	9380
1999	0	14249	159188	309766	400747	62294	41698	11330	15387	4327	11692	1535	2831	1999	940	12952
2000	0	19591	146537	192245	141301	155927	24646	17323	4944	6988	2019	5561	742	1382	983	6624
2001	0	9139	340960	112993	93757	84818	120798	23094	18614	5870	8947	2733	7855	1086	2075	11621
2002	0	13251	165268	568068	86903	67048	63443	95440	19196	16174	5310	8377	2630	7720	1088	13646
2003	0	6764	291746	187764	281515	40828	35206	36616	59235	12591	11093	3779	6145	1975	5911	11713

recreational harvest west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	300789	355179	298571	96579	49368	9325	14059	4864	3234	3119	1881	2345	6954	5930	33974
1985	0	539549	178130	117072	87725	33219	18604	3621	5460	1875	1231	1166	688	840	2441	13006
1986	0	264275	251439	22088	16195	18928	9977	7060	1615	2713	1002	688	669	400	491	8859
1987	0	235003	138713	76023	5540	4909	6609	3916	3008	724	1250	470	326	319	191	4426
1988	0	291100	278239	61725	36210	4621	6227	10952	7711	6671	1749	3217	1272	917	925	14249
1989	0	204182	293171	89430	15860	13121	2150	3346	6409	4769	4289	1157	2173	874	639	10735
1990	0	144706	67746	66644	17619	3871	3480	560	834	1533	1108	978	261	486	195	2463
1991	0	106415	320994	27874	25122	10535	3540	4500	946	1721	3675	2969	2851	811	1584	9668
1992	0	112928	223496	374055	22612	23061	10814	3819	4942	1044	1905	4078	3306	3188	909	12436
1993	0	157927	513752	118148	205780	17898	24053	13181	5057	6850	1485	2757	5966	4877	4731	19534
1994	0	134451	253337	306235	50546	91954	9071	13716	8313	3454	4991	1139	2197	4908	4112	21148
1995	0	45358	302684	117606	109643	22184	48634	5459	8983	5790	2520	3779	887	1751	3980	20808
1996	0	25812	153207	205936	46146	46015	10246	23440	2699	4526	2971	1318	2010	480	959	13667
1997	0	11958	277348	103362	87721	24363	31324	8226	20719	2537	4416	2973	1343	2079	501	15176
1998	0	7519	115121	245546	42242	30614	8976	12921	3791	10522	1401	2610	1854	874	1401	11175
1999	0	1789	32101	59701	84101	15173	12377	4075	6467	2044	6015	840	1622	1185	571	8364
2000	0	8020	50548	62568	48565	59358	10564	8300	2603	3969	1217	3515	487	933	679	4871
2001	0	3958	115457	31867	23515	19614	26608	4971	3977	1255	1919	589	1700	236	452	2560
2002	0	2894	36968	133236	21352	17204	16968	26447	5471	4711	1573	2513	797	2358	334	4259
2003	0	1996	83455	56359	82378	12198	11163	12413	21236	4705	4268	1483	2446	794	2392	4809

Appendix 1. Table 8. continued.

commercial handline open season discards east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	266	11	2	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	5794	1955	291	69	7	6	1	0	0	0	0	0	2
1986	0	0	0	9138	731	151	24	7	1	1	0	0	0	0	0	0
1987	0	0	0	30165	682	120	43	9	4	0	0	0	0	0	0	0
1988	0	0	0	11833	1511	47	20	14	4	2	0	0	0	0	0	1
1989	0	0	0	19102	730	122	6	3	2	1	1	0	0	0	0	0
1990	0	0	0	22717	1160	66	21	1	1	1	1	0	0	0	0	0
1991	0	0	0	16824	2099	118	9	3	0	0	0	0	0	0	0	0
1992	0	0	0	47916	713	131	14	1	1	0	0	0	0	0	0	0
1993	0	0	0	12070	3278	49	18	4	1	0	0	0	0	0	0	0
1994	0	0	0	62965	2374	786	19	10	3	1	1	0	0	0	0	1
1995	0	0	0	4984	1342	64	41	2	1	0	0	0	0	0	0	0
1996	0	0	0	14684	890	232	17	16	1	1	0	0	0	0	0	0
1997	0	0	0	7765	1646	88	31	3	4	0	0	0	0	0	0	0
1998	0	0	0	48894	1923	253	18	10	1	2	0	0	0	0	0	0
1999	0	0	0	16266	5898	241	56	7	5	1	1	0	0	0	0	0
2000	0	0	0	12976	3493	1048	59	19	3	2	0	1	0	0	0	0
2001	0	0	0	15885	3297	649	272	20	9	1	1	0	1	0	0	1
2002	0	0	0	70712	2847	498	142	87	9	5	1	1	0	1	0	1
2003	0	0	0	29164	10135	328	85	36	29	3	2	0	1	0	0	1

commercial handline open season discards west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	774	23	3	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	30944	3869	345	71	7	6	1	1	1	0	0	1	2
1986	0	0	0	28310	2889	581	86	25	3	3	1	0	0	0	0	2
1987	0	0	0	72368	1026	192	76	18	7	1	1	0	0	0	0	1
1988	0	0	0	51617	5875	148	55	37	12	6	1	1	0	0	0	2
1989	0	0	0	68593	2717	479	22	13	12	5	3	1	1	0	0	2
1990	0	0	0	81249	4017	205	60	4	3	4	2	1	0	0	0	1
1991	0	0	0	53521	6992	482	39	17	2	2	2	1	1	0	0	1
1992	0	0	0	334461	5253	1032	122	15	9	1	1	2	1	1	0	2
1993	0	0	0	70542	23493	395	146	30	6	4	1	1	1	1	1	2
1994	0	0	0	247107	11449	4343	118	66	19	4	4	1	1	2	1	4
1995	0	0	0	83061	24131	1183	813	37	31	12	3	4	1	1	2	8
1996	0	0	0	307542	20430	4877	329	301	17	17	7	2	3	1	1	9
1997	0	0	0	180163	39433	2302	858	90	115	8	10	5	2	2	0	10
1998	0	0	0	344610	20750	3693	325	183	26	42	4	5	3	1	1	7
1999	0	0	0	99490	40681	1977	537	73	58	11	20	2	3	2	1	7
2000	0	0	0	130674	25648	6781	359	115	18	17	3	7	1	1	1	4
2001	0	0	0	119770	19697	3474	1370	102	41	8	8	2	4	0	1	3
2002	0	0	0	259106	12797	2216	607	356	35	17	4	4	1	3	0	3
2003	0	0	0	84428	38069	1255	323	133	106	13	8	2	2	1	2	2

Appendix 1. Table 8. continued.

commercial longline open season discards east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	19	24	9	3	0	0	0	0	0	0	0	0	0
1986	0	0	0	35	11	5	2	1	0	0	0	0	0	0	0	0
1987	0	0	0	41	3	2	1	0	0	0	0	0	0	0	0	0
1988	0	0	0	25	28	2	1	1	0	0	0	0	0	0	0	0
1989	0	0	0	147	13	4	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	280	22	2	1	0	0	0	0	0	0	0	0	0
1991	0	0	0	14	10	2	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	87	2	1	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	13	19	1	1	0	0	0	0	0	0	0	0	0
1994	0	0	0	15	2	3	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	23	17	1	1	0	0	0	0	0	0	0	0	0
1996	0	0	0	15	7	5	1	1	0	0	0	0	0	0	0	0
1997	0	0	0	11	3	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	25	3	1	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	20	25	2	1	0	0	0	0	0	0	0	0	0
2000	0	0	0	8	9	8	1	0	0	0	0	0	0	0	0	0
2001	0	0	0	3	5	3	2	0	0	0	0	0	0	0	0	0
2002	0	0	0	63	6	2	1	1	0	0	0	0	0	0	0	0
2003	0	0	0	34	39	2	1	0	0	0	0	0	0	0	0	0

commercial longline open season discards west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	20	1	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	1723	423	55	14	2	2	0	0	0	0	0	0	1
1986	0	0	0	2858	444	112	20	7	1	1	0	0	0	0	0	2
1987	0	0	0	6061	154	43	23	7	3	1	1	0	0	0	0	1
1988	0	0	0	6532	1297	45	19	13	4	2	0	0	0	0	0	1
1989	0	0	0	6311	410	98	5	3	3	1	1	0	0	0	0	1
1990	0	0	0	2733	114	7	3	0	0	0	0	0	0	0	0	0
1991	0	0	0	369	51	5	1	0	0	0	0	0	0	0	0	0
1992	0	0	0	290	5	2	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	141	55	1	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	32	26	26	1	1	0	0	0	0	0	0	0	0
1995	0	0	0	12	24	4	5	0	0	0	0	0	0	0	0	0
1996	0	0	0	273	16	4	0	1	0	0	0	0	0	0	0	0
1997	0	0	0	18	17	3	3	1	1	0	0	0	0	0	0	0
1998	0	0	0	277	23	9	1	1	0	0	0	0	0	0	0	0
1999	0	0	0	399	323	25	11	2	2	0	1	0	0	0	0	0
2000	0	0	0	314	87	74	10	6	1	1	0	1	0	0	0	0
2001	0	0	0	16	25	18	19	3	2	0	1	0	0	0	0	0
2002	0	0	0	2386	227	49	16	12	2	1	0	0	0	0	0	0
2003	0	0	0	14	50	7	5	4	6	1	1	0	0	0	0	0

Appendix 1. Table 8. continued.

commercial closed season discards east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	134	1314	1017	278	64	61	11	16	31	23	21	6	11	57
1992	0	0	58	18816	1685	1565	579	161	169	30	49	97	72	65	19	220
1993	0	0	145	3796	6822	521	626	314	113	144	30	54	113	90	86	338
1994	0	0	70	20643	3974	6137	496	638	342	130	175	38	71	154	127	621
1995	0	0	402	2896	3145	605	1197	122	189	118	50	75	17	34	80	417
1996	0	0	125	4427	1204	1347	311	698	77	123	77	34	48	12	22	300
1997	0	0	182	2706	2561	585	637	150	354	41	68	45	20	29	7	208
1998	0	0	191	19196	3416	1909	442	539	142	366	45	83	57	27	42	315
1999	0	0	145	6107	9981	1705	1202	337	465	132	355	46	85	59	28	374
2000	0	0	182	5434	6517	8137	1396	1045	310	449	132	364	48	91	64	430
2001	0	0	836	5369	5026	4062	5124	901	689	210	310	93	261	36	67	365
2002	0	0	283	21465	3962	2877	2496	3504	670	542	173	265	81	235	33	395
2003	0	0	757	7883	12551	1660	1293	1233	1858	372	312	102	161	50	147	273

commercial closed season discards west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	1220	4013	3374	1147	307	324	59	98	195	150	139	39	74	424
1992	0	0	175	121230	12539	12882	5246	1593	1815	346	583	1170	901	835	231	2889
1993	0	0	180	22548	50995	4398	5486	2771	989	1263	261	467	980	782	744	2907
1994	0	0	32	85844	20163	35958	3230	4456	2497	974	1337	293	547	1190	976	4747
1995	0	0	1873	47172	57099	11566	24652	2679	4262	2657	1122	1637	376	727	1628	8149
1996	0	0	1589	93932	28467	29264	6163	13262	1450	2327	1471	632	939	219	430	5828
1997	0	0	3175	65598	64940	16219	18784	4610	11144	1328	2266	1501	669	1024	244	7199
1998	0	0	1031	138510	37941	29210	8039	10686	2922	7652	971	1738	1195	548	860	6443
1999	0	0	966	39700	72793	14926	12496	3958	5901	1747	4843	643	1187	837	392	5281
2000	0	0	2662	57374	51170	56818	9260	6967	2128	3169	950	2682	363	685	491	3351
2001	0	0	7475	40871	31109	22993	27675	4807	3695	1138	1711	517	1476	203	386	2123
2002	0	0	1112	88816	19864	14154	11683	15756	2927	2326	730	1113	340	977	135	1625
2003	0	0	2062	25830	51949	6908	5329	5077	7692	1554	1315	433	686	216	633	1190

Appendix 1. Table 8. continued.

recreational open season discards east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	1766	1338	261	14	2	0	0	0	0	0	0	0	0	0	0
1985	0	2030	383	61	9	1	0	0	0	0	0	0	0	0	0	0
1986	0	2501	3137	75	8	2	1	0	0	0	0	0	0	0	0	0
1987	0	7154	2421	406	6	1	1	0	0	0	0	0	0	0	0	0
1988	0	5742	3514	187	18	1	0	0	0	0	0	0	0	0	0	0
1989	0	12411	12096	918	28	6	0	0	0	0	0	0	0	0	0	0
1990	0	58325	5443	1109	52	3	1	0	0	0	0	0	0	0	0	0
1991	0	51754	61487	1026	129	12	1	1	0	0	0	0	0	0	0	0
1992	0	83065	28148	9306	90	22	4	1	1	0	0	0	0	0	0	0
1993	0	70573	53499	1935	421	8	4	1	0	0	0	0	0	0	0	0
1994	0	72926	22943	5611	142	58	2	2	1	0	0	0	0	0	0	0
1995	0	25600	30897	2195	313	14	12	1	1	0	0	0	0	0	0	0
1996	0	75701	45399	9427	305	72	6	8	1	1	1	0	0	0	0	0
1997	0	66000	185591	9155	830	43	19	3	5	1	1	0	0	0	0	0
1998	0	49202	95806	35740	802	114	11	8	2	4	0	0	0	0	0	0
1999	0	69393	124174	30819	5382	192	51	8	8	2	5	0	0	0	0	0
2000	0	72405	54635	16600	2195	642	43	18	4	5	1	0	0	0	0	0
2001	0	30593	122612	7656	916	186	101	10	6	2	2	0	0	0	0	0
2002	0	78186	87438	51794	1220	227	86	72	11	8	2	0	0	0	0	0
2003	0	56911	137305	13642	3134	112	40	23	28	5	4	0	0	0	0	0

recreational open season discards west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	102032	19224	3073	430	46	12	1	2	1	0	0	0	0	0	0
1986	0	3278	4111	98	11	3	1	0	0	0	0	0	0	0	0	0
1987	0	8336	2821	473	7	2	1	0	0	0	0	0	0	0	0	0
1988	0	97388	59602	3165	307	9	5	4	2	2	0	0	0	0	0	0
1989	0	70004	68225	5179	160	32	2	2	2	1	0	0	0	0	0	0
1990	0	187118	17464	3558	167	10	4	0	1	1	1	0	0	0	0	0
1991	0	114313	135810	2267	285	26	3	2	0	0	1	0	0	0	0	0
1992	0	163386	55366	18304	178	44	8	2	1	0	0	0	0	0	0	0
1993	0	168163	127477	4612	1002	18	9	3	1	1	0	0	0	0	0	0
1994	0	321502	101148	24737	625	255	9	7	3	1	2	0	0	0	0	0
1995	0	164295	198286	14086	2010	93	75	4	5	3	1	0	0	0	0	0
1996	0	79099	47437	9850	319	75	7	8	1	1	1	0	0	0	0	0
1997	0	35354	99413	4904	445	23	10	1	3	0	0	0	0	0	0	0
1998	0	52642	102504	38239	858	122	12	8	2	4	0	0	0	0	0	0
1999	0	81613	146041	36246	6330	226	60	9	9	2	6	0	0	0	0	0
2000	0	31033	23417	7115	941	275	19	8	2	2	1	0	0	0	0	0
2001	0	12541	50263	3139	375	76	41	4	3	1	1	0	0	0	0	0
2002	0	25130	28104	16648	392	73	28	23	3	3	1	0	0	0	0	0
2003	0	89215	215241	21385	4912	176	62	37	44	8	7	0	0	0	0	0

Appendix 1. Table 8. continued.

recreational closed season discards east

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	3934	10566	9136	936	519	129	168	46	121	15	28	19	9	14	3
1999	0	7509	15541	8113	6875	1001	662	179	243	68	185	24	45	31	15	24
2000	0	20028	20366	12078	6218	6388	994	695	198	280	81	222	30	55	39	19
2001	0	13119	71316	10099	6148	5298	7478	1426	1149	362	552	168	484	67	128	93
2002	0	22877	32024	39094	4068	2934	2740	4106	825	695	228	359	113	330	47	90
2003	0	12118	37877	8745	9489	1305	1113	1154	1865	396	349	119	193	62	185	27

recreational closed season discards west

	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	4318	11526	10587	1378	960	279	402	118	327	44	81	58	27	43	11
1999	0	7648	14759	5585	3713	585	466	152	241	76	224	31	60	44	21	35
2000	0	9267	11810	8699	5512	6500	1149	901	282	430	132	381	53	101	74	35
2001	0	5658	38632	6363	3918	3173	4280	798	638	201	308	94	272	38	72	53
2002	0	7415	12098	19727	2520	1962	1922	2990	618	532	178	284	90	266	38	74
2003	0	17916	49486	8744	7536	1006	901	996	1699	376	341	118	195	63	190	27

Appendix 1. Table 9. Proportions of observed age composition from otolith samples of red snapper in the Gulf of Mexico by gear and region assuming a January 1 birth date.

	commercial handline east															
	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1991	0	0.116	0.585	0.167	0.071	0.045	0.015	0	0	0	0	0	0	0	0	0
1992	0	0.010	0.554	0.225	0.149	0.012	0.012	0.010	0.010	0.019	0	0	0	0	0	0
1993	0	0.030	0.392	0.439	0.084	0.024	0.018	0	0	0	0.006	0	0	0	0	0.006
1994	0	0	0.381	0.295	0.180	0.087	0.046	0	0	0	0	0	0.006	0	0	0.006
1995	0	0.158	0.463	0.240	0.077	0.034	0.007	0	0	0	0.020	0	0	0	0	0
1996	0	0	0.636	0.231	0.114	0.016	0.003	0	0	0	0	0	0	0	0	0
1997	0	0	0.296	0.492	0.069	0.079	0.034	0	0.029	0	0	0	0	0	0	0
1998	0	0	0.046	0.615	0.215	0.095	0.013	0.008	0.008	0	0	0	0	0	0	0
1999	0	0	0.123	0.462	0.303	0.073	0.032	0.007	0	0	0	0	0	0	0	0
2000	0	0.002	0.265	0.350	0.261	0.082	0.026	0.008	0.006	0	0	0	0	0	0	0
2001	0	0.017	0.167	0.322	0.223	0.202	0.040	0.007	0.007	0.006	0.003	0.001	0	0	0	0.004
2002	0	0.013	0.398	0.343	0.142	0.049	0.045	0.005	0	0	0.002	0	0	0	0	0.002
2003	0	0.025	0.257	0.394	0.125	0.084	0.042	0.014	0.007	0.004	0.004	0.011	0.004	0	0	0.032
	commercial handline west															
	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1991																
1992	0	0.005	0.575	0.173	0.107	0.051	0.051	0.019	0	0.009	0	0	0	0	0	0.009
1993	0	0.023	0.339	0.444	0.135	0.029	0.018	0.003	0	0	0	0	0	0	0	0.009
1994	0	0.038	0.315	0.303	0.235	0.056	0.022	0.014	0.006	0.002	0.002	0	0	0	0	0.006
1995	0	0.007	0.306	0.403	0.132	0.118	0.028	0	0	0	0	0	0	0.007	0	0
1996																
1997																
1998	0	0.008	0.053	0.416	0.277	0.142	0.037	0.030	0.017	0.005	0.003	0.001	0.002	0	0	0.010
1999	0	0.002	0.176	0.401	0.249	0.103	0.047	0.012	0.005	0.003	0.001	0	0	0	0	0.002
2000	0	0.007	0.265	0.381	0.200	0.089	0.037	0.013	0.003	0.002	0.001	0.001	0	0	0	0.001
2001	0	0.015	0.164	0.307	0.239	0.145	0.074	0.029	0.014	0.007	0.002	0.002	0	0.001	0	0.003
2002	0.007	0.105	0.364	0.250	0.140	0.068	0.035	0.015	0.006	0.002	0.002	0.001	0.000	0.001	0	0.004
2003	0.006	0.071	0.364	0.338	0.123	0.045	0.013	0.006	0.006	0	0	0.006	0	0	0	0.019
	commercial longline east															
	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9	age 10	age 11	age 12	age 13	age 14	age 15+
1991	0	0.083	0.667	0.083	0.083	0	0	0	0	0	0	0	0	0	0.083	0
1992	0	0	0	0.267	0.067	0.333	0.067	0.133	0	0	0.067	0	0	0	0	0.067
1993	0	0	0.133	0.200	0.367	0.100	0.033	0.067	0	0	0.033	0	0	0.033	0	0.033
1994	0	0	0.125	0.375	0.250	0.125	0	0	0.125	0	0	0	0	0	0	0
1995	0	0	0.053	0.421	0.421	0.053	0	0	0.053	0	0	0	0	0	0	0
1996	0	0	0	0	0.333	0.500	0.167	0	0	0	0	0	0	0	0	0
1997	0	0.100	0.200	0.400	0.200	0.100	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0.040	0.240	0.400	0.240	0.080	0	0	0	0	0	0	0	0
1999	0	0	0.020	0.363	0.304	0.196	0.088	0	0.020	0	0	0	0	0	0	0.010
2000	0	0	0.008	0.069	0.153	0.153	0.115	0.076	0.046	0.023	0.031	0.031	0.023	0.015	0.015	0.244
2001	0	0	0.022	0.099	0.308	0.352	0.165	0.022	0.022	0	0	0	0	0	0	0.011
2002	0	0.028	0.078	0.196	0.201	0.223	0.140	0.039	0.022	0.011	0.011	0	0	0	0.006	0.045
2003																

Appendix 1. Table 9. continued.

	commercial longline west										age 10	age 11	age 12	age 13	age 14	age 15+
	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9						
1991																
1992																
1993	0	0.034	0.931	0.034	0	0	0	0	0	0	0	0	0	0	0	0
1994																
1995																
1996																
1997																
1998	0	0	0.009	0.089	0.144	0.190	0.069	0.052	0.063	0.052	0.066	0.049	0.043	0.043	0.026	0.106
1999	0	0	0.263	0.539	0.118	0.066	0	0.013	0	0	0	0	0	0	0	0
2000	0	0	0.003	0.027	0.064	0.195	0.225	0.174	0.117	0.044	0.037	0.034	0.020	0.013	0.003	0.044
2001	0	0	0	0.017	0.061	0.240	0.179	0.117	0.078	0.073	0.039	0.039	0.028	0.022	0.017	0.089
2002	0.004	0.074	0.258	0.127	0.109	0.053	0.082	0.058	0.034	0.036	0.025	0.015	0.018	0.018	0.015	0.074
2003																
	recreational east										age 10	age 11	age 12	age 13	age 14	age 15+
	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9						
1991	0	0.082	0.524	0.330	0.053	0.012	0	0	0	0	0	0	0	0	0	0
1992	0	0.172	0.289	0.413	0.093	0.022	0.007	0.003	0	0	0	0	0	0	0	0
1993	0	0.075	0.457	0.283	0.124	0.045	0.004	0.009	0	0	0	0.002	0	0	0	0
1994	0.000	0.074	0.348	0.333	0.142	0.070	0.027	0.002	0.002	0	0	0	0	0	0	0
1995	0.003	0.196	0.232	0.250	0.160	0.085	0.043	0.008	0.005	0.013	0	0	0	0	0	0.005
1996	0.019	0.141	0.569	0.173	0.031	0.010	0.009	0.019	0	0.028	0	0	0	0	0	0
1997	0	0	0.733	0.110	0.088	0.018	0.051	0	0	0	0	0	0	0	0	0
1998	0	0.014	0.307	0.491	0.158	0.022	0.005	0.001	0.001	0.000	0	0	0	0	0	0
1999	0	0.002	0.203	0.436	0.321	0.028	0.007	0.001	0	0	0.000	0	0	0	0	0.001
2000	0	0.04	0.494	0.337	0.113	0.014	0.002	0	0	0	0	0	0	0	0	0
2001	0	0.076	0.557	0.249	0.092	0.017	0.005	0	0.000	0.002	0	0	0	0	0	0
2002	0.001	0.048	0.263	0.406	0.175	0.060	0.028	0.013	0.002	0.000	0.000	0.000	0.000	0.001	0	0.001
2003	0.000	0.026	0.253	0.407	0.225	0.048	0.025	0.011	0.004	0.000	0.000	0	0.000	0	0	0.002
	recreational west										age 10	age 11	age 12	age 13	age 14	age 15+
	age 0	age 1	age 2	age 3	age 4	age 5	age 6	age 7	age 8	age 9						
1991	0	0.002	0.593	0.310	0.049	0.026	0.015	0.005	0	0	0	0	0	0	0	0
1992	0	0.024	0.367	0.451	0.082	0.028	0.028	0	0	0	0	0	0	0	0	0.020
1993	0	0.067	0.633	0.229	0.054	0.013	0.003	0.001	0.000	0	0	0	0	0	0	0
1994	0.000	0.028	0.42	0.286	0.158	0.054	0.018	0.014	0.001	0.000	0.010	0.000	0.000	0.000	0.000	0.010
1995	0.000	0.014	0.704	0.145	0.066	0.021	0.012	0.014	0.001	0.000	0.010	0.000	0.000	0.000	0.000	0.011
1996																
1997																
1998	0	0.029	0.177	0.332	0.259	0.114	0.050	0.022	0.007	0.002	0.001	0.001	0	0	0	0.007
1999	0	0.009	0.106	0.417	0.311	0.093	0.040	0.008	0.005	0.003	0	0.002	0	0	0	0.008
2000	0	0.018	0.300	0.233	0.043	0.040	0.040	0.119	0.003	0.003	0.097	0.002	0	0	0	0.102
2001	0.000	0.021	0.311	0.237	0.148	0.074	0.078	0.061	0.008	0.007	0.017	0.013	0.000	0.000	0.000	0.024
2002	0.003	0.110	0.337	0.339	0.116	0.042	0.021	0.018	0.003	0.002	0	0	0	0.002	0.003	0.002
2003	0	0.019	0.449	0.284	0.146	0.048	0.020	0.008	0.018	0.002	0.000	0.001	0.001	0.002	0.001	0.001

Appendix 1. Table 10. Effective sample size of observed age composition derived from the distribution of sampled otoliths within sub-stratified regions (commercial handline east was sub-stratified geographically and recreational east and west were sub-stratified by mode) for years starting January 1.

	commercial				recreational	
	handline		longline		west	east
	west	east	west	east		
1991	0	64	0	12	336	251
1992	214	94	0	15	94	382
1993	342	76	29	30	559	460
1994	498	91	0	8	5	461
1995	144	34	0	19	4	374
1996	0	10	0	6	0	112
1997	0	32	0	10	0	62
1998	1246	80	348	25	1029	1399
1999	1986	252	76	102	381	1394
2000	1424	93	298	131	18	582
2001	1327	164	179	91	4	439
2002	3046	529	551	179	607	2373
2003	154	78	0	0	207	182

Appendix 1. Table 11. Shrimp bycatch of red snapper from the Gulf of Mexico by year and age. Estimates were made separately for each region and are not additive, and are rescaled to the total catch.

	gulf wide			west			east		
	age 0	age 1	age 2	age 0	age 1	age 2	age 0	age 1	age 2
1972	73,177,244	37,705,239	15,518	64,602,940	33,038,926	5,134	6,439,337	2,065,818	3,445
1973	12,903,545	4,610,378	1,077	11,784,094	3,866,605	1,300	604,406	413,320	674
1974	11,229,770	6,723,067	1,163	10,512,896	6,223,835	6,269	404,008	243,556	395
1975	4,131,187	3,581,000	413	3,568,271	2,876,717	512	465,154	555,728	297
1976	24,700,703	10,799,337	1,960	23,760,265	10,015,516	1,219	497,524	392,925	651
1977	12,825,847	5,018,686	2,567	11,866,076	4,316,783	1,441	665,559	520,000	1,540
1978	6,567,923	3,308,103	474	6,304,049	3,012,047	604	175,521	193,235	594
1979	21,138,159	10,773,533	4,308	19,538,457	10,042,512	3,031	862,227	395,297	976
1980	24,810,309	10,321,557	2,234	24,256,783	10,010,295	9,122	441,489	117,263	448
1981	43,937,377	25,424,167	5,456	42,439,953	24,576,518	49,528	1,018,633	345,783	1,685
1982	18,983,316	6,241,574	6,110	15,683,700	5,373,952	1,348	2,596,185	297,870	645
1983	10,803,682	4,698,752	2,266	9,526,399	4,236,120	1,381	711,569	249,719	642
1984	9,971,508	4,363,068	2,524	8,659,842	3,785,197	661	739,642	247,582	666
1985	9,394,711	4,477,004	1,884	8,388,033	3,966,692	1,175	546,413	268,197	700
1986	4,774,963	2,512,406	730	4,482,025	2,305,416	659	161,738	106,808	284
1987	10,046,613	5,323,343	1,044	9,422,517	5,113,048	1,436	301,907	133,704	439
1988	7,580,273	4,043,067	1,360	7,030,741	3,708,193	966	318,217	166,601	402
1989	9,913,994	5,343,494	1,512	8,654,706	4,742,088	1,206	627,965	330,044	560
1990	39,893,784	19,694,271	5,945	35,842,785	17,644,636	5,579	2,073,837	1,070,587	1,776
1991	28,150,804	14,480,782	3,413	25,934,804	13,135,986	3,211	1,120,709	705,198	1,193
1992	23,543,980	5,572,176	223,444	22,684,355	5,268,929	214,416	664,949	141,362	249
1993	13,932,153	16,008,301	4,545	13,523,523	15,820,981	4,495	265,625	117,141	284
1994	17,421,025	21,360,580	17,394	16,874,539	20,708,845	16,617	367,107	412,185	9,368
1995	31,855,611	16,594,588	9,802	29,986,777	15,891,700	9,523	992,864	350,584	352
1996	28,210,734	7,470,769	16,497	26,482,845	7,076,113	15,043	723,404	267,720	646
1997	11,370,993	13,703,088	94,919	10,190,849	12,308,314	78,837	963,792	353,862	536
1998	37,020,334	8,462,146	7,520	36,188,409	7,768,384	7,207	713,537	463,218	1,585
1999	34,579,447	6,122,458	3,094	31,998,379	5,474,789	2,833	1,199,627	678,593	1,380
2000	10,471,931	4,613,689	21,379	9,440,886	3,165,147	14,367	1,089,125	1,015,398	5,877
2001	15,495,374	8,486,984	64,642	13,971,786	7,866,925	63,289	1,458,029	465,208	1,962
2002	16,305,729	5,448,117	127,154	15,305,867	5,011,868	120,265	976,355	423,302	7,043
2003	2,760,499	6,056,424	235,077	2,638,450	4,837,118	204,432	180,384	998,898	29,917

Appendix 1. Table 12. Size and age conversion parameters and relative fecundity vector used in the assessment of red snapper in United States waters of the Gulf of Mexico.

**von Bertalanffy
growth equation**

L_{inf} (inches)	34.522
k	0.220
t_0	0.366

size length and weight conversion equations

<u>length to length and weight to weight ($y = a + bx$)</u>		
	a	b
fork length to total length (in.)	0.17291	1.059
standard length to total length (in.)	0.02906	1.278
maximum length to total length (in.)	0.08664	0.973
gutted weight to whole weight (lb)	0	1.11

age	relative fecundity
0	0.0000
1	0.0000
2	0.0054
3	0.0342
4	0.1023
5	0.2066
6	0.3311
7	0.4582
8	0.5838
9	0.6824
10	0.7630
11	0.8269
12	0.8763
13	0.9139
14	0.9422
15+	1.0000

<u>length to weight ($y = a \cdot x^b$)</u>		
	a	b
total length (in.) to whole weight (lb)	0.0004398	3.056
fork length (in.) to whole weight (lb)	0.0006615	2.997