

## **Appendix C**

**Numbers of Fish Collected in the  
Long River (1988-2000), Fall Shoals (1985-2000),  
and Beach Seine (1985-2000) Surveys**

**APPENDIX C**  
**LIST OF TABLES**

<b><u>Number</u></b>	<b><u>Title</u></b>
C-1	Total number of fish collected in the Long River Survey, 1988-2000
C-2	Total number of fish collected in the Fall Shoals Survey, 1985-2000
C-3	Total number of fish collected in the Beach Seine Survey, 1985-2000

TABLE C-1 TOTAL NUMBER OF FISH COLLECTED IN THE LONG RIVER SURVEY, 1988-2000

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<b>Anadromous</b>													
ALEWIFE	8,200	624	60	2,727	555	1,275	1,679	293	1,787	171	235	10,231	320
ALOSA SPP.	258,802	423,742	714,369	250,755	465,613	191,558	206,819	122,644	460,957	58,794	128,111	124,710	391,708
AMERICAN SHAD	51,162	62,755	49,242	25,128	30,345	15,867	31,213	12,120	23,378	6,744	8,887	12,185	11,567
ATLANTIC STURGEON	11	2	5	26	4	.	7	1	1	3	2	.	.
ATLANTIC TOMCOD	25,414	37,397	38,431	40,804	10,558	21,343	20,724	64,680	17,375	71,070	91,679	13,625	10,337
BLUEBACK HERRING	4,992	2,568	1,230	28,397	30,496	3,290	9,315	1,412	18,354	2,358	246	4,367	1,907
HICKORY SHAD	.	.	.	.	.	.	.	1	4	5	.	.	.
RAINBOW SMELT	24,693	767	6,838	2,494	23,035	12,002	59,829	2,354	.	.	4	.	1
SEA LAMPREY	.	.	.	.	.	.	.	.	.	1	4	.	.
STRIPED BASS	61,072	225,498	264,907	359,994	462,382	459,384	674,881	383,781	962,335	272,329	443,766	790,358	1,376,173
<b>Catadromous</b>													
AMERICAN EEL	789	917	848	1,372	827	1,505	921	1,388	1,230	527	519	294	468
<b>Estuarine</b>													
ATLANTIC SILVERSIDE	152	11	67	49	27	19	144	323	52	4	12	29	98
BANDED KILLIFISH	5	2,274	1	.	5	3	4	24	2	.	2	2	.
FAT SLEEPER	.	.	.	.	.	.	.	.	.	.	.	1	.
FOURSPINE STICKLEBACK	6	1	1	2	1	7	5	.	7	1	.	1	.
HOGCHOKER	301,192	589,469	13,591	908,378	44,337	87,673	159,013	130,281	51,986	22,814	36,279	23,050	24,894
INLAND SILVERSIDE	98	101	.	58	42	209	857	149	166	40	9	69	12
LINED SEA HORSE	11	.	1	9	.	.	.	2	.	1	3	1	1
MUMMICHOG	1	.	.	.	.	.	2	6	.	.	.	1	2
NORTHERN PIPEFISH	1,135	153	102	2,059	137	416	186	277	291	170	120	427	82
SHORTNOSE STURGEON	3	.	2	3	3	14	8	7	38	2	5	1	4
THREESPINE STICKLEBACK	2	.	1	.	.	2	.	2	3	.	.	1	.
WHITE CATFISH	77	100	87	76	52	25	214	196	205	96	70	172	70
WHITE PERCH	138,753	198,953	157,348	147,232	265,656	221,021	172,995	115,842	287,690	69,844	130,785	136,518	267,801
<b>Freshwater</b>													
BLACK CRAPPIE	.	.	.	.	.	.	.	.	1	.	.	.	.
BLUEGILL	.	.	.	5	.	.	1	1	.	.	.	.	3
BROWN BULLHEAD	1	12	33	30	4	7	18	25	31	11	8	3	8
BROWN TROUT	.	.	1	.	1	.	.	.	.	.	.	.	.
CARP	730	651	.	340	731	136	121	147	1,199	867	161	211	533
CATOSTOMIDAE	.	.	.	1	1	.	.	.	.	.	.	.	.
CENTRARCHIDAE	30	66	46	40	132	40	125	11	152	26	100	16	137
CHAIN PICKEREL	.	.	.	.	.	.	.	.	2	1	.	1	.
CHANNEL CATFISH	.	.	.	1	1	.	.	5	5	4	.	11	8
COMMON SHINER	.	.	12	.	.	.	.	.	.	.	.	.	.
CYPRINIDAE	470	1,736	6,839	1,764	2,576	2,276	2,044	910	2,709	696	1,358	2,705	3,482
EMERALD SHINER	.	.	.	.	.	.	.	.	.	.	19	2	.
FATHEAD MINNOW	.	.	1	.	.	.	.	.	.	.	.	.	.
FRESHWATER DRUM	.	.	.	.	1	1	.	8	124	1	10	27	8
GIZZARD SHAD	.	85	5	3	535	123	440	1,065	688	708	885	1,281	2,383
GOLDEN SHINER	.	1	7	.	.	1	2	11	1	.	1	.	2
GOLDFISH	113	217	.	97	22	7	18	.	5	2	2	.	.
LARGEMOUTH BASS	.	1	.	2	.	1	1	.	.	.	1	.	.
LOGPERCH	48	20	.	.	179	.	.	.	.	.	3	.	.
NORTHERN HOG SUCKER	19	.	.	.	.	.	.	.	.	.	.	.	.
PERCIDAE	2	15	.	18	.	.	.	.	.	.	.	.	.
PUMPKINSEED	132	1	.	2	.	4	1	.	.	1	.	1	.
ROCK BASS	.	.	.	.	1	.	.	.	.	.	.	.	.
SATINFIN SHINER	.	.	.	.	.	.	.	.	1	.	.	.	.
SILVERY MINNOW	.	.	.	.	.	.	.	.	1	.	.	.	.
SMALLMOUTH BASS	.	3	1	.	23	.	1	.	.	.	2	.	1
SPOTTAIL SHINER	60	98	55	83	45	33	62	94	156	89	53	45	62
TESSELATED DARTER	2,898	2,805	2,290	1,566	2,836	1,936	1,714	2,205	1,550	1,493	2,834	2,726	2,822
WALLEYE	.	26	.	1	2	12	32	.	23	22	29	.	80
WHITE CRAPPIE	.	.	.	.	.	.	4	.	.	.	.	.	.
WHITE SUCKER	.	10	44	.	1	.	.	1	13	5	24	6	11

(Continued)

TABLE C-1 (CONTINUED)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<b>Freshwater (Continued)</b>													
YELLOW BULLHEAD	.	.	.	.	.	.	.	2	.	.	.	.	.
YELLOW PERCH	152	325	610	157	369	225	333	69	764	141	307	127	1,062
<b>Marine</b>													
AMERICAN SAND LANCE	48	8	2	4	4	.	1	42	6	.	7	2	11
ATLANTIC COD	68	.	.	.	.	.	.	.	.	.	.	.	.
ATLANTIC CROAKER	.	.	.	.	157	1	5	409	3	.	3,405	3,781	6,512
ATLANTIC HERRING	522	178	76	1,177	842	1,151	37	3,986	5,485	2,614	3,809	4,585	27
ATLANTIC MACKEREL	4	.	.	1	2	.	.	.	1,968	1,076	9	141	6
ATLANTIC MENHADEN	6	12	671	1,301	404	268	13,009	2,678	3,036	35,979	18,041	68,998	4,887
ATLANTIC NEEDLEFISH	.	.	3	.	.	1	.	1	.	.	.	.	.
BAY ANCHOVY	2,852,331	444,854	900,354	3,831,982	1,341,076	1,849,143	3,051,491	1,271,339	1,337,747	795,707	698,247	339,031	215,316
BLACK SEA BASS	.	.	.	.	.	.	4	.	.	1	3	6	.
BLACKCHEEK TONGUEFISH	.	.	.	.	10	.	.	.	.	.	.	.	.
BLUEFISH	85	54	165	151	147	78	73	61	43	35	21	71	46
BOTHIDAE	.	.	.	1	.	.	.	.	.	.	.	.	.
BUTTERFISH	143	18	18	27	46	38	108	11	12	29	22	273	6
CONGER EEL	132	72	54	29	124	195	175	45	117	14	10	1	71
COTTIDAE	128	.	.	.	.	.	.	.	.	.	.	.	.
CREVALLE JACK	1	4	.	1	.	.	.	.	1	.	2	1	.
CUNNER	11,129	1,429	.	1,955	4,221	996	2,176	3,790	4,932	3,106	1,884	4,733	1,739
CUSK	.	.	.	.	.	.	.	.	.	.	.	.	1
FEATHER BLENNY	.	.	.	.	.	.	.	.	.	.	1	23	3
FOURBEARD ROCKLING	108	209	2	404	691	4	4,157	6,487	571	7,586	3,116	391	184
FOURSPOT FLOUNDER	.	1	.	.	.	.	.	.	.	.	.	2	.
GADIDAE	6	.	.	.	.	10	.	1	.	.	.	.	.
GOBIIDAE	9,007	5,593	22,569	78,349	26,599	3,794	3,411	2,683	1,108	936	3,411	28,420	16,276
GOOSEFISH	.	.	.	8	12	.	.	.	1	.	.	.	.
GRUBBY	605	387	167	521	248	66	99	2,516	317	1,768	1,525	575	161
GULF STREAM FLOUNDER	.	.	.	.	.	.	.	.	.	3	1	1	.
HARVESTFISH	.	.	.	.	.	.	.	.	.	.	.	2	.
INSHORE LIZARDFISH	8	8	.	3	14	1	2	1	.	4	36	4	2
KING MACKEREL	.	.	.	1	.	.	.	.	.	.	.	.	.
LABRIDAE	.	.	.	48	.	.	.	.	1	.	.	.	.
LONGHORN SCULPIN	.	2	.	.	.	2	.	.	.	.	.	.	.
LOOKDOWN	.	.	.	.	.	.	.	.	.	.	1	.	.
MOONFISH	.	.	.	.	.	.	1	.	.	.	.	.	.
MYOXOCEPHALUS SPP.	.	.	.	.	.	.	.	.	.	1	.	.	.
NAKED GOBY	279	44	1,619	8	73	9	1	3	6	.	5	369	107
NORTHERN KINGFISH	.	118	.	10	10	1	39	1	.	2	.	16	.
NORTHERN PUFFER	1	5	32	279	.	2	.	4	14	2	.	11	1
NORTHERN SEAROBIN	40	2	17	19	1	4	27	5	48	1	14	37	.
NORTHERN STARGAZER	129	.	.	.	.	.	53	.	.	.	1	4	.
OYSTER TOADFISH	.	1	.	.	.	.	.	.	.	.	1	1	1
PLEURONECTIDAE	.	.	.	144	.	.	.	.	.	16	2	3	.
PLEURONECTIFORMES	.	.	.	.	.	.	.	.	.	.	.	1	.
POLLACK	.	.	.	.	.	.	.	.	.	1	.	.	.
RADIATED SHANNY	.	.	.	.	.	.	.	.	.	.	.	1	.
RED HAKE	3	1	1	.	1	1	.	.	9	13	19	15	2
ROCK GUNNEL	9	2	1	5	6	.	.	35	32	54	28	17	13
ROUGH SILVERSIDE	110	19	.	41	44	30	447	218	37	33	4	26	66
SCIAENIDAE	.	3	.	.	.	2	65	.	.	.	.	.	.
SCUP	.	.	.	1	.	.	.	.	.	.	.	.	.
SEABOARD GOBY	1	.	.	4	19	1	.	1	.	19	4	14	77
SEAROBIN	8	.	312	26	.	16	.	.	.	8	1	399	.
SHARPTAIL GOBY	.	.	1	.	.	.	.	.	.	.	.	2	.
SILVER HAKE	1	3	.	.	.	.	.	.	2	.	.	1	.
SILVER PERCH	.	.	.	.	.	.	2	1	.	.	.	.	.
SMALLMOUTH FLOUNDER	38	.	1	91	71	32	175	22	7	18	40	37	47
SPANISH MACKEREL	.	.	.	20	.	2	1	.	.	.	.	.	.

(Continued)

TABLE C-1 (CONTINUED)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<b>Marine (Continued)</b>													
SPECKLED WORM EEL	1	.	.	.	.	.	.	.	1	.	.	.	1
SPOT	.	.	2	.	.	20	9	.	8	.	.	.	11
SPOTTED HAKE	62	1	1	19	40	13	6	146	186	76	49	52	38
STRIPED ANCHOVY	.	.	.	.	.	.	.	5	35	6	3	5	.
STRIPED CUSKEEL	2	1	.	4	3	1	.	1	3	18	8	9	19
STRIPED KILLIFISH	.	.	.	.	1	.	.	.	.	.	.	.	.
STRIPED SEAROBIN	43	4	.	234	5	41	671	3	4	112	45	85	15
SUMMER FLOUNDER	.	24	1	39	18	.	7	23	11	5	8	8	26
TAUOG	1,205	3,432	.	969	488	241	439	3,171	3,396	3,009	490	2,908	2,028
TETRAODONTIDAE	.	3	.	.	.	.	.	.	.	.	.	.	.
WEAKFISH	1,586	2,602	122,082	6,821	1,206	1,621	2,804	623	59,707	13,345	145,785	224,618	50,800
WINDOWPANE	8,866	5,162	49	1,500	14,953	166,221	6,917	17,602	7,074	13,902	1,635	3,210	1,816
WINTER FLOUNDER	900	178	64	340	794	188	362	4,754	774	4,109	2,325	3,996	9,831
WITCH FLOUNDER	.	.	.	.	.	.	.	.	1	.	.	.	.
YELLOWTAIL FLOUNDER	.	.	.	.	2	.	1	162	2	6	13	7	1
<b>Unidentified</b>													
ACIPENSERIDAE	4	6	18	9	.	.	.	.	.	.	.	.	.
ATHERINIDAE	.	1	.	259	.	16	45	19	26	44	1	4	1
CYPRINODONTIDAE	.	8	.	.	.	5	.	.	.	5	.	.	.
FUNDULUS SPP.	.	2	4	3	1	111	4	3	2	.	1	62	.
MENIDIA SPP.	12	7	193	.	2	.	1	1	.	52	11	1	.
MORONE UNIDENTIFIED	2,180	13,473	955	17,620	7,246	12,406	8,350	5,416	29,225	3,094	31,732	54,420	58,042
UNIDENTIFIABLE	49,244	7,031	36,103	113,576	18,496	9,938	32,546	1,131	7,378	480	1,125	1,240	1,146

**Sampling Statistics for Long River Survey, 1988-2000**

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Start Date	18APR1988	17APR1989	19APR1990	15APR1991	13APR1992	12APR1993	11APR1994	06MAR1995	12MAR1996	11MAR1997	02MAR1998	23MAR1999	07MAR2000
End Date	25AUG1988	23AUG1989	16AUG1990	17OCT1991	14OCT1992	05OCT1993	05OCT1994	12OCT1995	09OCT1996	09OCT1997	07OCT1998	06OCT1999	05OCT2000
Volume Sampled (m3)	524,777	519,252	419,294	537,825	632,978	596,043	579,959	649,908	675,698	671,661	810,440	774,435	857,373
Sample Size	1,663	1,641	1,561	1,991	1,986	1,987	1,986	2,431	2,362	2,365	2,435	2,329	2,435

TABLE C-2 TOTAL NUMBER OF FISH COLLECTED IN THE FALL SHOALS SURVEY, 1988-2000

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<b>Anadromous</b>																
ALEWIFE	1,142	554	702	379	327	459	994	790	730	719	519	830	868	97	3,925	746
ALOSA SPP.	3,341	282	2,591	4,193	4,331	3,543	1,276	10,650	1,905	1,725	2,895	18,007	6,547	82	7,681	2,688
AMERICAN SHAD	1,717	2,166	776	1,483	3,646	1,323	1,291	3,406	961	2,095	831	2,964	1,105	310	1,407	808
ATLANTIC STURGEON	96	184	149	117	63	6	10	1	7	15	.	2	4	.	.	1
ATLANTIC TOMCOD	5,083	10,046	7,908	8,210	14,060	1,105	4,914	7,299	3,664	1,679	3,649	4,632	10,645	1,928	1,798	6,528
BLUEBACK HERRING	41,919	6,525	18,596	37,957	22,112	15,982	55,299	38,090	22,442	18,790	14,006	20,863	13,999	566	20,315	6,412
HICKORY SHAD	.	3	.	.	.	.	.	.	.	.	.	.	1	.	.	.
RAINBOW SMELT	126	389	429	576	34	216	256	2,549	757	363	136	.	.	1	.	.
SEA LAMPREY	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
STRIPED BASS	888	2,348	11,633	18,679	8,472	3,624	4,672	3,773	8,333	8,719	10,327	6,293	4,461	1,367	8,989	3,683
<b>Catadromous</b>																
AMERICAN EEL	1,872	2,906	2,254	2,076	1,444	342	984	19	1,406	1,647	207	24	13	73	11	54
<b>Estuarine</b>																
ATLANTIC SILVERSIDE	.	2	.	3	1	2	18	2	29	25	33	42	19	20	19	82
BANDED KILLIFISH	78	12	3	3	3	.	2	.	6	21	24	.	.	1	1	.
FAT SLEEPER	.	.	.	.	.	.	.	.	.	.	.	.	.	.	50	.
FOURSPINE STICKLEBACK	1	9	.	1	1	.	.	.	2	.	1	1	.	1	.	.
HOGCHOKER	89,948	108,036	89,042	74,672	73,613	22,760	42,916	62,300	43,064	15,581	23,723	18,200	4,860	3,952	5,678	7,419
INLAND SILVERSIDE	.	.	.	1	.	2	.	.	2	.	4	.	.	.	1	.
LINED SEA HORSE	.	.	.	.	.	.	.	.	.	.	1	.	1	.	.	.
MUMMICHOG	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.
NORTHERN PIPEFISH	40	13	22	25	12	4	16	12	65	15	6	1	27	10	8	9
SHORTNOSE STURGEON	16	8	11	20	12	2	18	.	82	50	.	1	.	2	.	3
WHITE CATFISH	721	677	775	806	740	352	547	72	939	1,363	779	646	139	756	259	219
WHITE PERCH	19,721	31,771	27,008	25,760	20,106	5,381	11,019	13,832	8,341	9,007	10,272	8,569	3,655	3,474	8,955	6,225
<b>Freshwater</b>																
BLACK BULLHEAD	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BLACK CRAPPIE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.
BLUEGILL	.	.	1	.	1	.	1	3	2	.	1	1	2	.	.	.
BROOK TROUT	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
BROWN BULLHEAD	37	127	109	171	172	17	125	70	92	278	71	78	59	65	426	393
CARP	4	13	5	4	10	1	6	1	7	3	1	.	1	.	3	.
CENTRAL MUDMINNOW	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
CENTRARCHIDAE	1	4	1	5	3	.	.	.	.	4	.	.	4	2	1	1
CHANNEL CATFISH	.	5	10	9	12	1	4	7	38	187	87	119	63	144	317	281
CYPRINIDAE	48	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.
EMERALD SHINER	.	.	.	.	1	.	.	.	.	.	.	.	.	11	2	1
FALL FISH	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
FRESHWATER DRUM	.	.	.	.	3	.	.	1	2	1	3	1	.	2	1	5
GIZZARD SHAD	4	6	8	2	8	1	.	.	3	1	5	.	15	3	24	4
GOLDEN SHINER	.	1	.	.	.	.	.	29	.	.	.	1	2	.	.	2
GOLDFISH	.	.	.	.	1	.	.	1	.	1	.	.	.	.	1	.
LARGEMOUTH BASS	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.
LOGPERCH	.	.	.	.	.	.	.	.	4	.	.	.	.	.	.	.
MARGINED MADTOM	.	.	1	.	.	.	1	.	.	1	.	.	.	.	.	.
PUMPKINSEED	57	2	13	5	1	6	12	2	16	12	49	20	9	1	10	2
REDBREAST SUNFISH	1	.	.	1	2	.	.	.	.	1	3	.	.	.	.	43
ROCK BASS	.	1	.	.	.	.	.	.	.	1	.	.	.	.	.	.
SATINFIN SHINER	.	.	.	.	.	1	.	.	.	.	.	1	.	.	.	.
SILVERY MINNOW	.	1	.	.	.	.	.	.	.	.	.	56	.	.	.	.
SMALLMOUTH BASS	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.
SPOTTAIL SHINER	244	685	333	369	102	43	404	259	351	248	204	382	83	105	175	110
TESSELATED DARTER	89	747	197	370	120	10	187	225	306	684	228	148	99	96	131	25
WHITE SUCKER	1	8	4	2	1	.	.	.	.	1	.	1	2	.	3	1
YELLOW BULLHEAD	.	.	.	.	30	.	.	.	.	.	.	.	.	.	.	.
YELLOW PERCH	.	.	1	1	.	.	.	.	.	1	.	.	.	.	.	.

(Continued)

TABLE C-2 (CONTINUED)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<b>Marine</b>																
ATLANTIC CROAKER	1	4	7	.	1	4	.	4	18	97	335	5	183	5,024	4,015	2,279
ATLANTIC HERRING	.	.	.	.	.	.	.	.	3	.	.	.	.	.	.	.
ATLANTIC MENHADEN	51	139	67	9	38	129	478	81	13	78	25	251	18	100	12,679	2,531
ATLANTIC NEEDLEFISH	.	.	.	1	.	1	1	.	.	.	1	.	1	2	1	.
BAY ANCHOVY	27,902	20,988	39,348	59,244	41,475	16,465	44,815	37,231	53,437	54,615	93,821	26,168	71,628	51,368	58,298	15,530
BLACK SEA BASS	1	.	.	1	.	.	.	.	.	2	.	.	9	.	.	.
BLUEFISH	60	51	107	116	62	82	58	81	53	37	42	39	55	27	165	53
BUTTERFISH	61	106	48	110	81	43	35	138	121	109	21	10	81	176	67	9
CONGER EEL	.	.	.	14	.	.	.	.	.	.	.	.	.	.	.	1
CREVALLE JACK	2	1	1	10	8	7	3	1	10	1	4	1	.	7	.	.
CUNNER	.	.	.	.	.	1	.	1	.	.	.	.	.	1	.	.
FEATHER BLENNY	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.
FOURSPOT FLOUNDER	2	2	.	1	.	1	.	.	.	25	.	.	4	.	.	.
GOBIIDAE	.	.	.	4	.	.	.	38	.	2	.	.	3	4	12	2
GRUBBY	.	.	.	2	.	.	.	.	1	.	.	.	.	.	.	.
INSHORE LIZARDFISH	1	.	.	1	4	.	1	4	8	1	.	.	.	.	.	71
LONGHORN SCULPIN	.	.	.	.	.	.	.	.	3	.	.	.	.	.	.	.
LOOKDOWN	1	.	1	1	1	.	.	.	.	1	.	.	1	1	3	2
MOONFISH	.	1	2	.	5	.	.	1	.	.	.	.	.	4	1	3
NAKED GOBY	3	6	47	9	21	1	7	30	3	1	26	.	8	4	7	7
NORTHERN KINGFISH	9	6	.	20	3	3	10	2	4	16	6	.	2	.	3	.
NORTHERN PUFFER	9	1	5	3	2	.	36	3	1	.	3	.	.	1	.	.
NORTHERN SEAROBIN	.	2	7	21	3	16	7	12	53	305	5	5	6	.	.	.
NORTHERN STARGAZER	1	.	.	20	.	4	3	10	2	7	.	.	6	.	2	1
OYSTER TOADFISH	.	.	.	.	.	.	.	1	.	.	.	4	.	1	1	1
RED HAKE	1	.	.	.	.	1	.	.	.	.	.	.	1	.	.	.
ROUGH SILVERSIDE	1	.	3	1	.	.	.	3	2	.	4	.	4	1	1	2
SCUP	1	.	.	.	.	.	3	.	.	.	8	.	.	.	.	2
SEABOARD GOBY	.	.	.	12	.	.	2	.	.	.	.	.	.	.	.	.
SEAROBIN	.	.	.	.	.	.	.	.	.	.	.	.	339	.	69	8
SILVER HAKE	.	3	.	.	.	1	1	.	.	.	.	.	5	.	1	3
SILVER PERCH	.	.	.	13	.	.	1	.	7	11	36	1	1	.	.	.
SMALLMOUTH FLOUNDER	.	.	.	8	.	.	.	1	1	9	3	.	.	1	1	.
SPANISH MACKEREL	.	.	.	.	.	1	17	.	7	.	.	.	.	.	.	.
SPOT	5	14	1	1,257	.	.	2	.	4	.	.	20	.	.	.	.
SPOTFIN BUTTERFLYFISH	1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
SPOTTED HAKE	2	1	.	.	.	.	3	1	7	3	1	21	34	6	2	3
STRIPED ANCHOVY	.	.	.	.	.	.	.	1	.	.	2	.	.	.	.	.
STRIPED BURRFISH	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
STRIPED CUSKEEL	3	.	.	1	.	.	1	1	.	.	.	.	.	1	.	1
STRIPED SEAROBIN	321	148	10	101	25	26	310	52	96	648	14	.	407	292	1,497	7
SUMMER FLOUNDER	232	447	58	7	42	35	102	35	39	32	19	15	3	.	4	2
TAUOG	.	.	.	2	.	3	.	1	.	.	.	.	1	.	.	.
TETRAODONTIDAE	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
WEAKFISH	2,214	1,482	749	3,777	2,842	770	5,878	750	2,332	2,416	3,772	2,198	2,711	2,035	7,404	7,139
WINDOWPANE	1	1	5	17	.	5	9	32	1	5	19	2	12	4	46	4
WINTER FLOUNDER	226	196	92	39	23	13	28	35	51	21	54	30	43	7	10	6
Unidentified																
MORONE UNIDENTIFIED	1	.	.	.	3	2	.	.	.	.	.	.	2	3	.	1
UNIDENTIFIABLE	.	.	.	.	.	.	.	.	6	.	18	1	68	.	1	.

TABLE C-2 (CONTINUED)

Sampling Statistics for Fall Shoals Survey, 1985-2000

	1985	1986	1987	1988	1989	1990	1991	1992
Start Date	22JUL1985	21JUL1986	13JUL1987	18JUL1988	17JUL1989	09JUL1990	15JUL1991	13JUL1992
End Date	14NOV1985	02DEC1986	05NOV1987	28OCT1988	26OCT1989	17OCT1990	25OCT1991	23OCT1992
Volume Sampled (m3)	1,886,745	2,298,278	2,035,357	1,826,628	1,590,047	1,252,910	1,707,237	1,865,365
Sample Size	1,802	2,098	1,958	1,680	1,679	1,680	1,678	1,680
	1993	1994	1995	1996	1997	1998	1999	2000
Start Date	19JUL1993	18JUL1994	10JUL1995	10JUL1996	07JUL1997	06JUL1998	06JUL1999	05JUL2000
End Date	29OCT1993	27OCT1994	20OCT1995	17OCT1996	23NOV1997	04DEC1998	03DEC1999	30NOV2000
Volume Sampled (m3)	2,010,162	2,018,414	1,782,105	1,824,729	1,995,403	2,214,609	2,159,879	2,174,794
Sample Size	1,680	1,681	1,680	1,669	2,015	2,130	2,085	2,113



TABLE C-3 TOTAL NUMBER OF FISH COLLECTED IN THE BEACH SEINE SURVEY, 1988-2000

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<b>Anadromous</b>																
ALEWIFE	1,272	818	515	675	439	925	2,323	870	638	1,738	1,051	437	1,664	423	3,636	574
ALOSA SPP.	8,272	2,529	5,685	21,022	8,346	10,853	38,966	3,490	5,237	14,468	10,653	47,511	7,889	1,773	35,377	3,993
AMERICAN SHAD	9,171	14,716	7,641	10,780	13,026	12,261	15,771	15,366	5,122	13,007	4,049	21,339	8,618	5,931	13,755	5,968
ATLANTIC STURGEON	1	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.
ATLANTIC TOMCOD	243	148	209	230	81	115	46	328	13	9	22	51	27	163	15	54
BLUEBACK HERRING	25,362	12,522	31,373	36,245	19,037	43,555	40,731	29,105	29,722	46,040	21,506	28,591	59,867	1,337	28,384	9,272
HICKORY SHAD	.	.	.	.	.	.	.	.	.	.	.	1	3	.	.	.
RAINBOW SMELT	.	1	.	.	.	2	5	.	5	.	.	.	.	.	.	.
STRIPED BASS	1,413	1,854	11,987	6,151	5,585	6,906	10,813	6,156	10,765	7,273	6,463	2,847	10,438	8,225	16,897	3,693
<b>Catadromous</b>																
AMERICAN EEL	315	163	125	151	107	81	208	8	97	86	36	12	47	36	45	13
<b>Estuarine</b>																
ATLANTIC SILVERSIDE	1,197	4,406	1,459	6,760	686	8,383	17,291	6,668	14,493	21,101	28,061	9,014	11,757	17,160	25,690	9,587
BANDED KILLIFISH	5,959	3,514	4,369	4,917	1,948	1,513	3,232	1,243	2,708	6,402	8,656	1,544	4,080	1,541	3,269	1,223
FAT SLEEPER	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FOURSPINE STICKLEBACK	359	525	296	194	12	11	24	15	32	29	20	13	7	15	13	4
HOGCHOKER	1,033	276	312	305	261	150	652	328	143	230	392	53	53	29	20	20
INLAND SILVERSIDE	464	653	146	406	234	190	160	1,129	9	4	12	1	6	4	3	4
MUMMICHOG	455	38	496	414	68	109	183	128	208	448	613	86	294	85	235	80
NORTHERN PIPEFISH	844	166	348	297	156	86	689	35	124	16	223	6	316	76	97	10
THREESPIKE STICKLEBACK	2	17	10	3	4	2	4	1	.	.	.	1	.	.	1	.
WHITE CATFISH	52	83	86	101	66	23	25	.	16	7	.	8	2	2	1	1
WHITE MULLET	4	3	.	.	3	1	2	.	1	.	.	.	1	.	.	.
WHITE PERCH	9,938	12,082	12,303	14,607	11,407	8,485	10,033	9,497	11,771	8,789	6,368	3,501	5,292	4,368	10,931	5,652
<b>Freshwater</b>																
BLACK CRAPPIE	.	47	52	10	10	8	12	14	4	14	16	17	4	10	24	13
BLACKNOSE DACE	2	.	1	1	.	.	.	.	.	.	.	.	1	.	.	.
BLUEGILL	64	57	76	355	159	89	69	59	94	89	198	45	72	240	113	112
BLUNTNOSE MINNOW	.	.	.	.	.	.	.	.	.	3	.	2	.	4	1	3
BRIDLE SHINER	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.
BROOK SILVERSIDE	.	.	.	.	.	.	.	.	.	44	6	2	1	8	34	9
BROOK STICKLEBACK	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.
BROWN BULLHEAD	6	41	12	53	28	10	42	11	252	117	15	2	19	29	142	20
BROWN TROUT	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.
CARP	50	102	78	133	86	57	111	2	62	41	21	.	16	2	12	9
CATOSTOMIDAE	.	.	.	.	.	.	.	.	.	.	.	3	3	.	.	.
CENTRARCHIDAE	673	327	388	351	100	106	64	29	42	216	89	79	91	98	138	69
CHAIN PICKEREL	.	.	.	.	4	.	.	1	.	.	1	.	.	1	.	2
CHANNEL CATFISH	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	2
COMELY SHINER	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
COMMON SHINER	.	.	.	1	.	.	.	1	1	.	.	.	.	.	.	.
CREEK CHUB	1	.	.	.	.	.	4	.	1	.	2	.	1	.	2	.
CYPRINIDAE	1	6	6	.	.	.	134	.	5	2	18	.	1	1	5	.
EMERALD SHINER	4	4	5	22	.	11	8	4	2	1	.	76	18	1,271	209	296
FALL FISH	.	2	.	.	.	.	9	3	2	11	2	3	1	6	1	.
FATHEAD MINNOW	1	10	.	.	1	.	.	.	2	.	.	7	.	.	3	3
FRESHWATER DRUM	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3
GIZZARD SHAD	3	13	100	10	7	28	22	157	38	49	54	50	138	52	133	14
GOLDEN SHINER	460	1,223	647	676	640	817	672	506	659	760	325	396	158	405	228	270
GOLDFISH	14	25	16	97	1	3	33	.	29	3	14	.	1	1	4	.
GRASS PICKEREL	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
GREEN SUNFISH	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
LARGEMOUTH BASS	44	71	44	57	51	34	85	42	55	74	146	24	44	105	208	38
LOGPERCH	.	.	.	.	.	.	.	1	1	.	.	1	.	1	4	.
LONGEAR SUNFISH	.	.	.	.	.	10	.	.	.	.	.	.	.	.	.	.
LONGNOSE DACE	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
MIMIC SHINER	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.

(Continued)

TABLE C-3 (CONTINUED)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<b>Freshwater (Continued)</b>																
NORTHERN HOG SUCKER	.	.	1	3	.	1	4	2	.	.	.	1	.	.	.	1
NORTHERN PIKE	.	2	4	2	4	2	2	.	3	2	.	2	.	.	1	2
PUGNOSE SHINER	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.
PUMPKINSEED	740	496	609	1,070	633	724	1,195	510	774	1,535	1,603	247	580	502	734	263
REDBREAST SUNFISH	115	158	185	160	111	76	200	163	251	382	368	78	82	93	263	98
REDFIN PICKEREL	.	.	.	2	.	.	1	.	.	.	.	3	.	2	1	1
ROCK BASS	6	8	1	12	3	.	22	1	1	.	10	2	.	7	7	6
SATINFIN SHINER	1	2	.	1	.	2	.	.	1	.	6	5	12	10	10	.
SILVERY MINNOW	3	13	23	119	2	9	387	68	568	1,027	8	2,131	31	40	428	18
SMALLMOUTH BASS	7	25	8	28	25	21	25	9	30	73	59	31	17	50	156	46
SPOTFIN SHINER	5	8	17	5	.	.	.	.	12	8	8	49	4	27	127	15
SPOTTAIL SHINER	5,316	5,177	4,452	5,407	5,129	5,500	12,385	7,727	7,169	12,452	7,529	3,887	7,189	4,996	16,512	3,927
SWALLOWTAIL SHINER	.	.	.	.	.	.	.	3	.	.	.	.	.	2	1	.
TESSELATED DARTER	1,198	1,372	820	1,697	415	479	2,385	929	1,251	1,669	700	663	1,767	1,359	3,858	760
TIGER MUSKELLUNGE	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.
WALLEYE	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	2
WHITE CRAPPIE	.	4	1	3	.	1	2	1	.	.	.	.	.	1	.	.
WHITE SUCKER	7	16	17	32	9	15	12	7	11	12	2	6	7	16	7	8
YELLOW PERCH	22	67	44	49	34	12	27	9	22	29	6	44	8	37	53	41
<b>Marine</b>																
ATLANTIC CROAKER	.	1	.	.	.	26	.	1	.	.	7	.	.	35	5	19
ATLANTIC HERRING	.	.	.	.	.	.	.	.	.	.	.	.	1	.	4	.
ATLANTIC MENHADEN	118	834	30	99	159	1,063	678	310	16	1,637	48	1,515	116	331	50,418	16,025
ATLANTIC NEEDLEFISH	92	77	54	48	41	96	476	5	11	12	15	26	38	19	28	10
BAY ANCHOVY	4,081	4,155	3,746	3,989	9,507	4,134	4,669	8,729	8,106	10,447	17,615	3,544	16,980	11,333	6,662	2,617
BLUEFISH	567	400	533	280	224	348	314	375	223	80	252	98	320	141	2,180	218
BUTTERFISH	.	.	.	4	.	1	.	1	9	.	.	.	.	2	.	.
CREVALLE JACK	71	10	3	22	40	32	58	32	30	2	2	1	.	42	3	24
CUNNER	.	.	.	.	.	.	.	1	.	.	.	.	.	1	.	.
GOOSEFISH	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
GRAY SNAPPER	7	1	3	.	.	2	.	.	.	.	.	.	.	.	.	.
GRUBBY	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
INSHORE LIZARDFISH	.	.	.	1	1	.	14	8	11	5	1	.	3	3	7	.
LOOKDOWN	18	1	.	.	10	1	.	.	.	.	.	.	2	.	.	2
MOONFISH	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.
NAKED GOBY	20	9	11	4	4	7	14	22	2	.	9	.	8	5	15	2
NORTHERN KINGFISH	20	8	.	9	1	4	42	2	17	13	8	1	15	29	21	1
NORTHERN PUFFER	2	1	.	1	.	.	10	.	4	.	2	.	2	.	6	.
NORTHERN SEAROBIN	.	2	.	.	.	.	8	.	1	.	.	.	.	.	.	.
NORTHERN STARGAZER	1	.	.	.	.	.	1	.	1	1	1	1	8	.	1	.
ORANGESPOTTED FILEFISH	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PERMIT	.	.	.	.	.	.	.	1	2	.	.	.	.	2	.	7
ROUGH SILVERSIDE	35	4	23	258	9	4	.	2	.	1	1	.	36	.	.	.
SEABOARD GOBY	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
SEAROBIN	.	.	.	.	.	.	5	.	.	.	.	.	1	.	.	.
SILVER HAKE	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
SILVER PERCH	13	1	.	19	.	.	29	8	61	25	5	5	25	4	1	1
SMALLMOUTH FLOUNDER	1	.	.	.	.	.	.	.	.	.	1	.	12	.	.	.
SPANISH MACKEREL	.	.	.	.	.	.	12	.	4	1	.	.	.	.	.	.
SPOT	35	106	4	32	.	1	8	2	39	24	.	59	.	3	6	13
SPOTFIN MOJARRA	.	.	.	.	.	.	.	.	.	2	.	.	.	1	.	.
SPOTTED GOATFISH	.	.	.	.	.	.	.	17	.	.	.	.	.	.	.	.
SPOTTED HAKE	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
STRIPED ANCHOVY	1	.	.	.	.	.	.	.	1	15	25	6	4	.	.	1
STRIPED MULLET	2	6	1	1	.	.	5	.	.	.	2	.	.	.	.	1
STRIPED SEAROBIN	5	16	.	3	.	.	34	1	11	.	.	.	35	21	8	1
SUMMER FLOUNDER	48	45	4	1	2	2	46	18	20	18	2	2	.	4	2	1
TAUTOG	2	5	2	20	.	6	31	1	.	1	.	.	22	1	.	.

(Continued)

TABLE C-3 (CONTINUED)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<b>Marine (Continued)</b>																
WEAKFISH	72	5	.	2	.	27	111	1	4	4	1	25	27	4	30	18
WINDOWPANE	.	.	3	.	.	.	1	.	.	.	.	1	.	.	.	.
WINTER FLOUNDER	282	80	29	41	9	23	154	35	74	45	106	6	123	28	45	68
<b>Unidentified</b>																
MORONE UNIDENTIFIED	.	.	1	.	.	.	.	.	.	.	1	.	.	.	1	.
UNIDENTIFIABLE	.	.	.	.	.	.	.	.	.	.	150	.	.	.	.	.

**Sampling Statistics for Beach Seine Survey, 1985-2000**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Start Date	16JUL85	15JUL86	24JUN87	14JUN88	13JUN89	18JUN90	24JUN91	23JUN92	01JUL93	27JUN94	19JUN95	18JUN96	16JUN97	15JUN98	14JUN99	13JUN00
End Date	21NOV85	21NOV86	13NOV87	03NOV88	02NOV89	24OCT90	01NOV91	28OCT92	04NOV93	02NOV94	26OCT95	23OCT96	23OCT97	21OCT98	22OCT99	18OCT00
Sample Size	1,000	1,000	1,101	1,100	1,100	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	994	1,000