

Appendix F

Length Frequency Distribution

APPENDIX F
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Table F-1 Length Frequency Distribution of Larval and Young-of-Year Striped Bass in Hudson River Estuary Determined from Long River Survey, 2004

DATES	0.0- 1.9	2.0- 3.9	4.0- 5.9	6.0- 7.9	8.0- 9.9	10.0- 11.9	12.0- 13.9	14.0- 15.9	16.0- 17.9	18.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9
02MAR-04MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAR-18MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29MAR-31MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05APR-09APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12APR-15APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR-22APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26APR-29APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03MAY-06MAY	0	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10MAY-12MAY	0	114	577	649	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17MAY-21MAY	0	97	1199	849	61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY-28MAY	0	65	1075	1457	154	21	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN-04JUN	0	163	1407	1184	424	61	14	8	1	0	0	0	0	0	0	0	0	0	0
07JUN-10JUN	1	76	1174	1098	446	142	24	8	3	2	0	0	0	0	0	0	0	0	0
14JUN-18JUN	0	13	743	734	321	254	99	28	10	7	7	2	2	0	0	0	0	0	0
21JUN-24JUN	0	5	128	559	483	188	75	57	40	20	25	5	0	1	0	0	0	0	0
28JUN-01JUL	0	0	22	153	340	357	157	54	45	36	44	15	10	4	3	1	0	0	0
13JUL-15JUL	0	0	0	2	7	14	24	32	11	3	2	4	4	5	1	3	0	0	0
27JUL-29JUL	0	0	0	0	0	1	1	0	0	1	2	1	1	1	3	3	3	1	1
10AUG-12AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	2	1	1
24AUG-26AUG	0	0	0	0	0	0	0	0	0	0	0	0	2	6	2	5	6	3	3
08SEP-10SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
21SEP-23SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
05OCT-07OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	1	543	6335	6685	2236	1037	394	188	110	68	79	28	17	13	14	12	11	8	6
DATES	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9+	N	MEAN	MIN	MED	MAX	SD	
02MAR-04MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
16MAR-18MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
29MAR-31MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
05APR-09APR	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
12APR-15APR	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
19APR-22APR	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
26APR-29APR	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
03MAY-06MAY	0	0	0	0	0	0	0	0	0	0	0	0	20	4.2	3.4	4.1	5.9	0.8	
10MAY-12MAY	0	0	0	0	0	0	0	0	0	0	0	0	1340	5.6	3.0	5.9	7.2	0.9	
17MAY-21MAY	0	0	0	0	0	0	0	0	0	0	0	0	2206	5.6	3.0	5.5	9.5	1.1	
24MAY-28MAY	0	0	0	0	0	0	0	0	0	0	0	0	2772	6.2	3.0	6.1	11.7	1.1	
01JUN-04JUN	0	0	0	0	0	0	0	0	0	0	0	0	3262	6.3	2.6	6.0	17.5	1.7	
07JUN-10JUN	0	0	0	0	0	0	0	0	0	0	0	0	2974	6.7	1.8	6.2	18.8	1.9	
14JUN-18JUN	0	0	0	0	0	0	0	0	0	0	0	0	2220	7.6	3.5	6.4	34.0	2.8	
21JUN-24JUN	0	0	0	0	0	0	0	0	0	0	0	0	1586	9.2	3.0	8.3	35.0	3.4	
28JUN-01JUL	0	0	0	0	0	0	0	0	0	0	0	0	1241	11.6	4.5	10.5	46.0	4.9	
13JUL-15JUL	0	0	0	0	0	0	0	0	0	0	0	0	112	17.0	6.4	14.6	49.0	8.6	
27JUL-29JUL	1	0	0	0	0	0	0	0	0	0	0	0	19	41.0	12.6	43.0	68.0	15.2	
10AUG-12AUG	1	0	0	0	0	0	0	0	0	0	0	0	9	52.7	41.0	54.0	67.0	8.4	
24AUG-26AUG	11	6	5	7	5	0	2	0	0	0	0	0	64	65.5	36.0	66.0	96.0	14.9	
08SEP-10SEP	0	0	0	0	0	0	0	0	0	0	0	0	1	62.0	62.0	62.0	62.0	.	
21SEP-23SEP	0	1	2	3	4	2	1	0	0	0	0	0	14	81.9	52.0	84.5	97.0	10.9	
05OCT-07OCT	0	0	0	0	0	0	0	0	0	0	0	1	1	128.0	128.0	128.0	128.0	.	
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	13	7	7	10	9	2	3	0	0	0	0	1	17841						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-2 Length Frequency Distribution of Young-of-Year Striped Bass in Hudson River Estuary Determined from Fall Juvenile Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9
06JUL - 09JUL	0	13	8	25	20	6	9	9	2	3	0	0	0	0	0	0	0
19JUL - 22JUL	3	2	4	3	3	10	14	15	15	3	3	1	0	0	0	0	0
02AUG - 05AUG	0	1	3	5	5	9	11	13	16	14	14	7	3	2	2	0	1
16AUG - 19AUG	0	0	0	0	0	0	0	5	6	10	16	14	13	11	12	6	3
30AUG - 02SEP	0	0	0	0	0	0	0	4	2	8	9	11	11	6	10	8	5
13SEP - 16SEP	0	0	0	0	0	0	1	1	0	7	6	5	7	13	7	5	3
27SEP - 30SEP	0	0	0	0	0	0	0	0	0	1	2	5	9	10	10	9	10
11OCT - 14OCT	0	0	0	0	0	0	0	0	1	0	3	4	10	5	4	1	3
25OCT - 28OCT	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	1	1
08NOV - 11NOV	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	0	2
29NOV - 03DEC	0	0	0	0	0	0	0	0	0	0	1	2	6	9	9	6	9
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	3	16	15	33	28	25	35	47	42	46	54	49	61	59	59	36	37
DATES	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9	125.0- 129.9	130.0- 134.9	135.0- 139.9	140.0- 144.9	145.0- 149.9+	N	MEAN	MIN	MED	MAX	SD
06JUL - 09JUL	0	0	0	0	0	0	0	0	0	0	0	95	31.6	15.0	30.0	58.0	10.4
19JUL - 22JUL	0	0	0	0	0	0	0	0	0	0	0	76	41.8	13.0	43.5	67.0	12.4
02AUG - 05AUG	0	0	0	0	0	0	0	0	0	0	0	109	50.7	17.0	53.0	92.0	14.2
16AUG - 19AUG	0	1	0	0	0	0	0	0	0	0	0	102	68.7	45.0	67.0	102.0	11.8
30AUG - 02SEP	6	2	2	0	0	0	0	0	0	0	0	84	74.7	45.0	73.0	106.0	14.9
13SEP - 16SEP	8	2	0	0	0	0	0	0	0	0	0	67	75.8	42.0	76.0	102.0	14.3
27SEP - 30SEP	5	4	2	0	1	0	0	0	1	0	0	71	83.6	57.0	83.0	136.0	14.1
11OCT - 14OCT	3	1	1	0	0	0	2	0	0	0	1	39	81.8	52.0	77.0	146.0	19.3
25OCT - 28OCT	0	0	3	1	0	0	1	0	0	0	0	11	94.6	74.0	90.0	126.0	18.3
08NOV - 11NOV	6	1	0	0	1	1	0	0	0	1	0	18	96.3	72.0	95.0	140.0	16.8
29NOV - 03DEC	3	1	2	3	3	1	1	0	0	0	0	57	87.8	60.0	85.0	126.0	15.9
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	31	12	10	4	5	2	4	0	1	1	1	729					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-3 Length Frequency Distribution of Young-of-Year Striped Bass in Hudson River Estuary Determined from Beach Seine Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9
15JUN-17JUN	0	5	23	12	2	0	0	0	0	0	0	0	0	0	0	0
29JUN-01JUL	0	8	40	27	25	19	12	7	2	0	0	0	0	0	0	0
12JUL-15JUL	0	0	6	14	24	26	31	15	19	13	2	1	1	0	0	0
26JUL-29JUL	0	0	1	3	19	8	12	16	30	18	11	9	13	9	5	2
09AUG-12AUG	0	0	0	0	3	8	7	11	11	22	18	19	9	15	8	13
23AUG-25AUG	0	0	0	0	0	0	2	11	20	19	14	21	22	20	16	9
07SEP-11SEP	0	0	0	0	0	0	0	0	6	11	12	16	27	15	8	5
20SEP-22SEP	0	0	0	0	0	0	0	0	1	4	11	16	20	15	15	7
04OCT-07OCT	0	0	0	0	0	0	0	0	0	4	7	20	14	16	8	16
18OCT-21OCT	0	0	0	0	0	0	0	0	0	4	3	9	15	8	14	6
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	13	70	56	73	61	64	60	89	95	78	111	121	98	74	58
DATES	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9	125.0- 129.9	130.0- 134.9+	N	MEAN	MIN	MED	MAX	SD	
15JUN-17JUN	0	0	0	0	0	0	0	0	0	42	23.2	17.0	23.0	32.0	3.3	
29JUN-01JUL	0	0	0	0	0	0	0	0	0	140	29.7	16.0	29.0	52.0	8.3	
12JUL-15JUL	0	0	0	0	0	0	0	0	0	153	41.2	20.0	40.0	72.0	10.3	
26JUL-29JUL	0	0	0	0	0	0	0	0	0	159	53.6	21.0	53.0	86.0	14.8	
09AUG-12AUG	9	5	0	0	0	0	0	0	0	161	65.2	33.0	64.0	97.0	16.3	
23AUG-25AUG	6	1	2	0	0	0	0	0	0	169	67.5	42.0	67.0	101.0	13.1	
07SEP-11SEP	2	3	5	1	0	0	0	0	0	112	72.1	51.0	71.0	105.0	12.3	
20SEP-22SEP	12	6	8	3	6	12	0	0	0	136	83.4	51.0	80.0	118.0	17.5	
04OCT-07OCT	7	5	3	5	3	1	3	0	2	115	81.7	56.0	79.0	131.0	16.5	
18OCT-21OCT	9	4	6	6	2	2	2	0	1	92	83.8	56.0	81.0	132.0	16.5	
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====						
	45	24	24	15	11	15	5	0	3	1279						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-4 Length Frequency Distribution of Larval and Young-of-Year White Perch in Hudson River Estuary Determined from Long River Survey, 2004

DATES	0.0- 1.9	2.0- 3.9	4.0- 5.9	6.0- 7.9	8.0- 9.9	10.0- 11.9	12.0- 13.9	14.0- 15.9	16.0- 17.9	18.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9
02MAR - 04MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAR - 18MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29MAR - 31MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05APR - 09APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12APR - 15APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR - 22APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26APR - 29APR	0	7	3	0	0	0	0	0	0	0	0	0	0	0	0
03MAY - 06MAY	0	623	182	0	0	0	0	0	0	0	0	0	0	0	0
10MAY - 12MAY	0	628	468	15	0	0	0	0	0	0	0	0	0	0	0
17MAY - 21MAY	0	618	1210	20	1	0	0	0	0	0	0	0	0	0	0
24MAY - 28MAY	0	503	1258	639	44	0	0	0	0	0	0	0	0	0	0
01JUN - 04JUN	2	1223	892	536	133	4	0	0	0	0	0	0	0	0	0
07JUN - 10JUN	0	870	865	573	380	75	8	3	3	2	3	0	0	0	0
14JUN - 18JUN	0	548	652	224	236	182	37	5	0	0	0	0	0	0	0
21JUN - 24JUN	0	121	537	643	359	97	41	26	21	10	6	2	1	1	0
28JUN - 01JUL	0	17	124	419	637	364	84	12	5	2	2	1	2	2	0
13JUL - 15JUL	0	0	1	4	19	30	23	9	1	1	0	0	0	0	0
27JUL - 29JUL	0	0	0	0	1	0	1	1	1	3	9	0	1	0	0
10AUG - 12AUG	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
24AUG - 26AUG	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0
08SEP - 10SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
21SEP - 23SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05OCT - 07OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	2	5158	6192	3073	1810	752	194	56	31	18	22	4	5	4	1
DATES	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9+	N	MEAN	MIN	MED	MAX	SD	
02MAR - 04MAR	0	0	0	0	0	0	0	0	0	.	.	.	.	.	.
16MAR - 18MAR	0	0	0	0	0	0	0	0	0	.	.	.	.	.	.
29MAR - 31MAR	0	0	0	0	0	0	0	0	0	.	.	.	.	.	.
05APR - 09APR	0	0	0	0	0	0	0	0	0	.	.	.	.	.	.
12APR - 15APR	0	0	0	0	0	0	0	0	0	.	.	.	.	.	.
19APR - 22APR	0	0	0	0	0	0	0	0	0	.	.	.	.	.	.
26APR - 29APR	0	0	0	0	0	0	0	0	10	3.8	3.2	3.9	4.3	0.3	
03MAY - 06MAY	0	0	0	0	0	0	0	0	805	3.7	2.3	3.7	4.7	0.4	
10MAY - 12MAY	0	0	0	0	0	0	0	0	1111	3.9	2.5	3.9	6.6	0.5	
17MAY - 21MAY	0	0	0	0	0	0	0	0	1849	4.2	2.2	4.1	8.4	0.6	
24MAY - 28MAY	0	0	0	0	0	0	0	0	2444	5.1	2.1	5.0	8.9	1.3	
01JUN - 04JUN	0	0	0	0	0	0	0	0	2790	4.7	1.8	4.2	11.0	1.7	
07JUN - 10JUN	0	0	0	0	0	0	0	0	2782	5.6	2.2	5.3	24.2	2.3	
14JUN - 18JUN	0	0	0	0	0	0	0	0	1884	5.9	2.0	4.8	14.8	2.7	
21JUN - 24JUN	0	0	0	0	0	0	0	0	1865	7.2	2.8	6.7	36.0	3.0	
28JUN - 01JUL	0	0	0	0	0	0	0	0	1671	8.9	2.9	8.8	39.0	2.6	
13JUL - 15JUL	1	0	0	0	0	0	0	0	89	11.7	5.9	11.3	46.0	4.3	
27JUL - 29JUL	0	0	0	0	0	0	0	0	17	19.6	8.6	20.0	34.0	5.1	
10AUG - 12AUG	0	0	1	0	0	0	0	0	3	33.3	21.0	24.0	55.0	18.8	
24AUG - 26AUG	0	1	0	0	1	1	0	0	6	47.3	28.0	43.0	70.0	17.8	
08SEP - 10SEP	1	1	1	1	0	0	0	0	6	54.0	43.0	55.0	63.0	7.8	
21SEP - 23SEP	1	0	0	0	0	0	0	0	1	49.0	49.0	49.0	49.0	.	
05OCT - 07OCT	0	0	0	0	0	0	0	1	1	81.0	81.0	81.0	81.0	.	
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	3	2	2	1	1	1	0	1	17334						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-5 Length Frequency Distribution of Young-of-Year White Perch in Hudson River Estuary Determined from Fall Juvenile Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9
06JUL-09JUL	0	1	3	6	4	0	0	0	0	0	0	0
19JUL-22JUL	1	12	11	4	4	0	0	0	0	0	0	0
02AUG-05AUG	0	3	16	16	9	9	1	0	1	0	0	0
16AUG-19AUG	0	0	2	5	10	16	8	4	5	0	0	1
30AUG-02SEP	0	0	0	0	1	5	6	13	4	0	0	2
13SEP-16SEP	0	0	0	0	0	0	2	5	7	9	1	2
27SEP-30SEP	0	0	0	0	0	0	0	2	4	7	5	9
11OCT-14OCT	0	0	0	0	0	0	0	0	1	10	6	14
25OCT-28OCT	0	0	0	0	0	0	0	0	1	3	2	6
08NOV-11NOV	0	0	0	0	0	0	0	0	0	4	3	12
29NOV-03DEC	0	0	0	0	0	0	0	1	1	5	8	22
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	1	16	32	31	28	30	17	25	24	38	25	68
DATES	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9+	N	MEAN	MIN	MED	MAX	SD
06JUL-09JUL	0	0	0	0	0	0	14	26.9	15.0	28.5	33.0	5.1
19JUL-22JUL	0	0	0	0	0	0	32	21.4	14.0	21.0	34.0	5.6
02AUG-05AUG	0	0	0	0	0	0	55	27.8	18.0	26.0	53.0	7.0
16AUG-19AUG	1	0	0	0	0	0	52	38.8	23.0	38.0	70.0	9.6
30AUG-02SEP	1	1	0	0	0	0	33	47.3	34.0	45.0	77.0	9.8
13SEP-16SEP	0	3	3	0	0	0	32	58.5	41.0	55.0	82.0	12.0
27SEP-30SEP	10	9	3	2	0	0	53	67.3	48.0	67.0	87.0	9.7
11OCT-14OCT	7	16	10	4	0	0	68	71.3	52.0	72.5	89.0	9.3
25OCT-28OCT	6	3	4	1	1	1	29	71.2	52.0	70.0	99.0	11.3
08NOV-11NOV	12	14	9	7	2	1	66	74.4	55.0	74.5	95.0	9.2
29NOV-03DEC	37	32	19	8	4	1	143	73.5	49.0	74.0	97.0	8.6
	=====	=====	=====	=====	=====	=====	=====					
	74	78	48	22	7	3	577					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-6 Length Frequency Distribution of Young-of-Year White Perch in Hudson River Estuary Determined from Beach Seine Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9
15JUN-17JUN	0	0	0	0	0	0	0	0	0	0	0	0
29JUN-01JUL	0	16	22	4	4	3	0	0	2	1	0	0
12JUL-15JUL	0	1	3	19	36	12	4	3	3	0	0	0
26JUL-29JUL	0	0	2	14	13	7	8	11	14	2	1	1
09AUG-12AUG	0	0	0	0	3	4	13	19	14	18	17	7
23AUG-25AUG	0	0	0	0	0	0	1	10	4	17	11	17
07SEP-11SEP	0	0	0	0	0	0	1	5	5	8	13	10
20SEP-22SEP	0	0	0	0	0	0	0	0	6	5	4	7
04OCT-07OCT	0	0	0	0	0	0	0	1	0	8	8	9
18OCT-21OCT	0	0	0	0	0	0	0	0	3	2	4	10
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	17	27	37	56	26	27	49	51	61	58	61
DATES	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9+	N	MEAN	MIN	MED	MAX	SD
15JUN-17JUN	0	0	0	0	0	0	0	.	.	.	.	.
29JUN-01JUL	0	0	0	0	0	0	52	24.1	16.0	21.0	59.0	9.3
12JUL-15JUL	0	0	0	0	0	0	81	32.7	18.0	32.0	50.0	6.2
26JUL-29JUL	3	2	0	0	0	0	78	42.4	20.0	40.5	75.0	13.2
09AUG-12AUG	3	4	2	0	0	0	108	54.4	32.0	55.0	80.0	10.8
23AUG-25AUG	12	9	0	2	0	0	84	63.0	42.0	63.5	88.0	10.1
07SEP-11SEP	16	12	6	6	0	0	82	67.8	44.0	69.0	88.0	10.8
20SEP-22SEP	10	10	10	3	5	0	62	71.9	50.0	73.0	93.0	11.5
04OCT-07OCT	13	17	7	1	1	0	68	70.3	49.0	71.0	91.0	9.1
18OCT-21OCT	19	24	16	8	4	2	92	75.6	51.0	76.0	98.0	9.2
	=====	=====	=====	=====	=====	=====	=====					
	76	78	41	20	10	2	707					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-7 Length Frequency Distribution of Larval and Young-of-Year Atlantic Tomcod in Hudson River Estuary Determined from Long River Survey, 2004

DATES	0.0- 1.9	2.0- 3.9	4.0- 5.9	6.0- 7.9	8.0- 9.9	10.0- 11.9	12.0- 13.9	14.0- 15.9	16.0- 17.9	18.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9
02MAR - 04MAR	0	0	0	713	272	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAR - 18MAR	0	0	75	1004	262	7	0	0	0	0	0	0	0	0	0	0	0	0
29MAR - 31MAR	0	0	16	238	483	275	57	8	0	0	0	0	0	0	0	0	0	0
05APR - 09APR	0	0	0	21	337	562	442	82	6	0	0	0	0	0	0	0	0	0
12APR - 15APR	0	0	0	1	40	101	192	231	188	64	17	0	0	0	0	0	0	0
19APR - 22APR	0	0	0	0	7	36	155	184	183	169	122	3	0	0	0	0	0	0
26APR - 29APR	0	0	0	0	2	3	7	39	75	102	235	100	25	0	0	0	0	0
03MAY - 06MAY	0	0	0	0	0	0	3	7	26	67	254	255	185	41	1	0	0	0
10MAY - 12MAY	0	0	0	0	0	0	1	0	4	7	31	177	246	251	85	16	1	0
17MAY - 21MAY	0	0	0	0	0	0	0	0	0	0	0	41	224	277	220	117	45	14
24MAY - 28MAY	0	0	0	0	0	0	0	0	0	0	0	3	25	71	114	147	108	58
01JUN - 04JUN	0	0	0	0	0	0	0	0	0	0	0	0	2	19	76	111	94	59
07JUN - 10JUN	0	0	0	0	0	0	0	0	0	0	0	0	1	5	22	66	131	100
14JUN - 18JUN	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	37	77	105
21JUN - 24JUN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13	34	61
28JUN - 01JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	18	47
13JUL - 15JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	10
27JUL - 29JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	16
10AUG - 12AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	11
24AUG - 26AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
08SEP - 10SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
21SEP - 23SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05OCT - 07OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	91	1977	1403	984	857	551	482	409	660	579	709	664	519	511	530	491
DATES	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9+	N	MEAN	MIN	MED	MAX	SD	
02MAR - 04MAR	0	0	0	0	0	0	0	0	0	0	0	985	7.7	6.1	7.7	9.7	0.5	
16MAR - 18MAR	0	0	0	0	0	0	0	0	0	0	0	1348	7.2	5.0	7.0	11.3	0.9	
29MAR - 31MAR	0	0	0	0	0	0	0	0	0	0	0	1077	9.2	5.3	8.9	15.4	1.7	
05APR - 09APR	0	0	0	0	0	0	0	0	0	0	0	1450	11.3	6.5	11.3	16.9	1.7	
12APR - 15APR	0	0	0	0	0	0	0	0	0	0	0	834	14.6	7.7	14.6	22.6	2.6	
19APR - 22APR	0	0	0	0	0	0	0	0	0	0	0	859	16.5	8.0	16.4	26.5	3.1	
26APR - 29APR	0	0	0	0	0	0	0	0	0	0	0	588	21.4	9.2	21.0	33.0	4.3	
03MAY - 06MAY	0	0	0	0	0	0	0	0	0	0	0	839	26.0	13.0	26.0	40.0	5.2	
10MAY - 12MAY	0	0	0	0	0	0	0	0	0	0	0	819	33.2	13.9	33.0	50.0	5.7	
17MAY - 21MAY	2	0	0	0	0	0	0	0	0	0	0	940	38.8	25.0	38.0	62.0	6.4	
24MAY - 28MAY	27	8	1	0	0	0	0	0	0	0	0	577	47.2	28.0	47.0	72.0	7.9	
01JUN - 04JUN	25	17	10	0	0	0	0	0	0	0	0	421	50.7	33.0	50.0	74.0	8.0	
07JUN - 10JUN	60	36	26	16	4	0	0	0	0	0	0	481	56.6	34.0	55.0	83.0	8.8	
14JUN - 18JUN	57	62	37	23	18	5	1	0	0	0	0	454	61.0	24.0	60.0	92.0	9.7	
21JUN - 24JUN	71	64	52	32	17	10	4	0	0	0	0	377	65.1	42.0	64.0	93.0	9.5	
28JUN - 01JUL	21	35	21	6	9	2	1	1	0	0	0	174	63.5	46.0	61.0	95.0	9.2	
13JUL - 15JUL	7	13	7	6	3	0	0	0	1	1	0	57	66.1	50.0	66.0	106.0	11.1	
27JUL - 29JUL	13	16	10	10	9	2	2	1	0	0	0	95	67.0	50.0	65.0	95.0	10.3	
10AUG - 12AUG	18	15	10	5	6	0	2	2	1	1	0	80	67.7	48.0	65.0	106.0	11.7	
24AUG - 26AUG	10	9	6	3	1	3	3	0	0	0	0	46	68.2	56.0	65.0	91.0	9.9	
08SEP - 10SEP	10	6	10	3	0	2	0	0	0	0	0	39	66.8	54.0	65.0	89.0	7.6	
21SEP - 23SEP	0	0	1	1	0	1	2	0	1	1	0	8	85.0	60.0	89.5	105.0	15.5	
05OCT - 07OCT	0	0	3	4	5	2	3	5	0	0	0	22	84.7	70.0	82.0	97.0	8.6	
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	321	281	194	109	72	27	18	9	3	3	0	12570						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-8 Length Frequency Distribution of Young-of-Year Atlantic Tomcod in Hudson River Estuary Determined from Fall Juvenile Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9
06JUL - 09JUL	0	0	0	0	0	0	0	3	3	18	11	12	29	31	22	15	7	3
19JUL - 22JUL	0	0	0	0	0	0	0	0	3	6	10	10	13	12	17	7	9	8
02AUG - 05AUG	0	0	0	0	0	0	0	1	5	14	12	23	15	21	20	7	3	3
16AUG - 19AUG	0	0	0	0	0	0	0	0	1	7	8	12	13	16	16	13	4	3
30AUG - 02SEP	0	0	0	0	0	0	0	0	1	6	8	9	20	12	10	17	9	9
13SEP - 16SEP	0	0	0	0	0	0	0	0	1	5	11	17	13	10	8	9	10	6
27SEP - 30SEP	0	0	0	0	0	0	0	0	0	0	1	8	13	14	4	6	7	3
11OCT - 14OCT	0	0	0	0	0	0	0	0	0	0	0	0	1	2	6	6	10	9
25OCT - 28OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	5	11
08NOV - 11NOV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	3
29NOV - 03DEC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	0	0	4	14	56	61	91	117	118	105	87	66	58
DATES	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9	125.0- 129.9	130.0- 134.9	135.0- 139.9	140.0- 144.9	145.0- 149.9	150.0- 154.9	155.0- 159.9+	N	MEAN	MIN	MED	MAX	SD
06JUL - 09JUL	1	0	0	0	0	0	0	0	0	0	0	0	158	73.5	47.0	74.5	100.0	11.3
19JUL - 22JUL	3	1	0	0	1	0	0	0	0	0	0	0	101	77.4	50.0	78.0	121.0	13.6
02AUG - 05AUG	1	0	1	0	0	0	0	0	0	0	0	0	130	71.9	47.0	71.0	110.0	11.6
16AUG - 19AUG	3	0	0	0	0	0	0	0	0	0	0	0	98	75.7	50.0	76.5	102.0	11.3
30AUG - 02SEP	2	0	0	0	0	0	0	0	0	0	0	0	107	77.6	54.0	76.0	102.0	12.3
13SEP - 16SEP	4	0	0	0	0	0	0	0	0	0	0	0	100	75.9	51.0	74.0	104.0	12.9
27SEP - 30SEP	3	7	2	2	0	0	0	1	0	0	0	0	71	85.0	62.0	78.0	138.0	15.9
11OCT - 14OCT	12	14	8	4	6	4	3	5	1	1	0	0	92	105.6	72.0	104.5	149.0	16.7
25OCT - 28OCT	13	13	10	5	8	10	8	1	7	3	0	0	98	114.0	82.0	110.5	149.0	15.9
08NOV - 11NOV	4	5	12	14	15	13	11	5	3	3	1	4	98	121.8	87.0	121.5	158.0	15.4
29NOV - 03DEC	0	2	3	15	8	15	12	20	13	10	9	2	111	132.2	84.0	134.0	158.0	13.4
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====					
	46	42	36	40	38	42	34	32	24	17	10	6	1164					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-9 Length Frequency Distribution of Young-of-Year Atlantic Tomcod in Hudson River Estuary Determined from Beach Seine Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9
15JUN-17JUN	0	0	0	0	0	0	0	0	2	4	3	3	4	3
29JUN-01JUL	0	0	0	0	0	0	0	0	0	0	0	0	1	4
12JUL-15JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26JUL-29JUL	0	0	0	0	0	0	0	0	0	0	0	0	2	0
09AUG-12AUG	0	0	0	0	0	0	0	0	0	0	1	0	1	2
23AUG-25AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07SEP-11SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20SEP-22SEP	0	0	0	0	0	0	0	0	0	0	0	0	1	0
04OCT-07OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT-21OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	0	0	0	2	4	4	3	9	9
DATES	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9+	N	MEAN	MIN	MED	MAX	SD	
15JUN-17JUN	0	0	0	0	0	0	0	21	64.6	54.0	64.0	78.0	8.0	
29JUN-01JUL	6	1	1	0	0	0	0	13	81.1	72.0	80.0	93.0	5.5	
12JUL-15JUL	0	0	0	0	0	0	0	0	.	.	.	.	.
26JUL-29JUL	1	3	0	0	0	0	0	6	81.7	72.0	83.5	89.0	7.3	
09AUG-12AUG	1	2	3	0	0	0	0	10	82.6	63.0	85.0	93.0	9.9	
23AUG-25AUG	0	2	0	0	0	0	1	3	94.3	86.0	86.0	111.0	14.4	
07SEP-11SEP	0	1	0	0	0	0	0	2	74.5	60.0	74.5	89.0	20.5	
20SEP-22SEP	0	0	1	0	0	0	0	2	81.5	71.0	81.5	92.0	14.8	
04OCT-07OCT	0	0	0	0	1	0	0	1	101.0	101.0	101.0	101.0	.	
18OCT-21OCT	0	0	1	0	0	0	0	1	90.0	90.0	90.0	90.0	.	
	=====	=====	=====	=====	=====	=====	=====	=====						
	8	9	6	0	1	0	1	59						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-10 Length Frequency Distribution of Larval and Young-of-Year Bay Anchovy in Hudson River Estuary Determined from Long River Survey, 2004

DATES	0.0- 1.9	2.0- 3.9	4.0- 5.9	6.0- 7.9	8.0- 9.9	10.0- 11.9	12.0- 13.9	14.0- 15.9	16.0- 17.9	18.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9+	N	MEAN	MIN	MED	MAX	SD	
02MAR-04MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
16MAR-18MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
29MAR-31MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
05APR-09APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
12APR-15APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
19APR-22APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
26APR-29APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
03MAY-06MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
10MAY-12MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
17MAY-21MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
24MAY-28MAY	0	34	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	3.5	2.3	3.5	4.7	0.6
01JUN-04JUN	0	133	377	118	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	638	4.9	2.0	4.7	11.9	1.3
07JUN-10JUN	0	88	268	268	131	20	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	779	6.4	2.4	6.2	34.0	2.4
14JUN-18JUN	0	67	316	424	381	237	179	72	6	2	0	0	0	0	0	0	0	0	0	0	0	1684	8.5	2.3	8.2	19.8	3.0
21JUN-24JUN	0	24	124	282	424	440	268	141	102	45	4	0	0	0	0	0	0	0	0	0	0	1854	10.5	2.7	10.2	20.3	3.4
28JUN-01JUL	0	29	204	441	377	364	362	326	170	116	81	1	0	0	0	0	0	0	0	0	0	2471	11.3	2.1	10.9	26.6	4.3
13JUL-15JUL	0	12	99	258	350	337	338	259	173	133	269	85	26	2	0	0	0	0	0	0	0	2341	13.7	2.6	12.5	36.0	5.9
27JUL-29JUL	0	8	48	74	216	440	401	296	184	151	224	99	114	55	23	6	0	0	0	0	0	2339	16.1	2.5	13.9	49.0	7.6
10AUG-12AUG	0	1	12	59	198	297	224	226	233	207	335	197	185	100	36	14	3	2	0	0	0	2329	19.1	3.4	17.2	58.0	8.7
24AUG-26AUG	0	0	0	10	44	37	57	67	146	177	518	616	254	94	60	32	9	2	0	0	0	2125	25.0	6.4	25.0	60.0	7.7
08SEP-10SEP	0	0	1	3	20	36	19	39	94	112	530	322	316	184	88	53	26	13	1	0	1858	27.3	5.8	26.0	63.0	9.1	
21SEP-23SEP	0	0	0	2	15	21	20	13	7	13	285	227	212	167	129	88	50	49	12	5	1321	32.7	7.5	30.0	68.0	11.4	
05OCT-07OCT	0	0	0	0	3	22	45	49	40	17	109	164	202	181	139	111	72	58	13	8	1238	34.2	8.3	34.0	68.0	12.5	
=====	0	396	1461	1939	2168	2252	1913	1488	1155	973	2357	1711	1311	783	475	304	160	124	26	13	21023						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-11 Length Frequency Distribution of Young-of-Year Bay Anchovy in Hudson River Estuary Determined from Fall Juvenile Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9+	N	MEAN	MIN	MED	MAX	SD
06JUL - 09JUL	0	8	75	30	0	0	0	0	0	0	0	0	113	23.0	17.0	23.0	28.0	2.4
19JUL - 22JUL	0	5	43	66	50	17	1	0	0	0	0	0	182	27.8	16.0	27.0	41.0	4.9
02AUG - 05AUG	0	14	90	97	46	10	5	0	0	0	0	0	262	26.1	16.0	25.0	44.0	5.0
16AUG - 19AUG	0	2	22	43	54	45	40	10	1	0	0	0	217	33.3	18.0	33.0	50.0	6.9
30AUG - 02SEP	0	3	32	48	60	40	24	18	3	3	0	0	231	32.8	16.0	32.0	58.0	8.2
13SEP - 16SEP	0	2	12	24	47	26	27	19	15	12	0	0	185	37.6	19.0	36.0	60.0	9.8
27SEP - 30SEP	0	0	5	12	21	36	41	39	25	10	3	3	196	42.2	20.0	42.0	70.0	9.3
11OCT - 14OCT	0	0	1	7	18	20	30	47	41	18	3	4	196	45.7	23.0	46.5	66.0	9.2
25OCT - 28OCT	0	0	0	2	6	10	16	13	12	9	10	4	85	48.1	28.0	47.0	67.0	10.3
08NOV - 11NOV	0	0	0	4	3	5	13	10	11	16	2	4	70	48.5	26.0	49.0	67.0	10.2
29NOV - 03DEC	0	0	0	0	3	2	4	0	3	0	0	0	12	40.4	30.0	40.0	52.0	7.7
	0	34	280	333	308	211	201	156	111	68	18	15	1749					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-12 Length Frequency Distribution of Young-of-Year Bay Anchovy in Hudson River Estuary Determined from Beach Seine Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9+	N	MEAN	MIN	MED	MAX	SD
15JUN-17JUN	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
29JUN-01JUL	0	0	4	4	0	0	0	0	0	0	0	8	23.8	22.0	24.0	26.0	1.7
12JUL-15JUL	0	0	1	0	0	0	0	0	0	0	0	1	22.0	22.0	22.0	22.0	.
26JUL-29JUL	0	0	11	28	10	5	10	3	0	0	0	67	30.6	21.0	28.0	49.0	7.3
09AUG-12AUG	0	0	0	2	5	8	0	0	0	0	0	15	33.9	28.0	35.0	37.0	2.8
23AUG-25AUG	0	0	0	1	0	10	24	10	0	1	0	46	41.5	28.0	41.5	56.0	4.4
07SEP-11SEP	0	0	3	5	6	9	11	9	1	1	0	45	38.0	21.0	38.0	56.0	8.4
20SEP-22SEP	0	0	0	0	1	9	27	16	16	8	1	78	45.8	34.0	45.5	64.0	6.4
04OCT-07OCT	0	0	0	0	4	5	28	23	9	9	6	87	47.0	30.0	45.0	64.0	7.7
18OCT-21OCT	0	0	0	0	1	2	6	6	13	4	1	33	48.0	31.0	50.0	61.0	6.7
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====					
	0	0	19	40	27	48	106	67	39	23	8	380					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-13 Length Frequency Distribution of Larval and Young-of-Year American Shad in Hudson River Estuary Determined from Long River Survey, 2004

DATES	0.0- 1.9	2.0- 3.9	4.0- 5.9	6.0- 7.9	8.0- 9.9	10.0- 11.9	12.0- 13.9	14.0- 15.9	16.0- 17.9	18.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9
02MAR - 04MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAR - 18MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29MAR - 31MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05APR - 09APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12APR - 15APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR - 22APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26APR - 29APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03MAY - 06MAY	0	0	1	2	34	57	1	0	0	0	0	0	0	0	0	0	0	0	0	0
10MAY - 12MAY	0	0	0	0	6	61	13	0	0	0	0	0	0	0	0	0	0	0	0	0
17MAY - 21MAY	0	0	0	0	5	40	10	0	1	0	0	0	0	0	0	0	0	0	0	0
24MAY - 28MAY	0	0	0	1	5	22	25	34	12	5	3	0	0	0	0	0	0	0	0	0
01JUN - 04JUN	0	0	0	3	9	0	0	3	19	25	50	2	0	0	0	0	0	0	0	0
07JUN - 10JUN	0	0	0	0	21	15	2	6	19	20	29	10	0	0	0	0	0	0	0	0
14JUN - 18JUN	0	0	0	0	1	1	13	17	34	29	44	37	14	5	2	1	0	0	0	0
21JUN - 24JUN	0	0	0	0	0	0	1	2	8	15	12	9	7	9	4	0	0	0	0	0
28JUN - 01JUL	0	0	0	0	0	0	3	4	0	1	10	4	9	3	16	12	10	5	0	0
13JUL - 15JUL	0	0	0	0	0	0	0	0	0	0	0	1	1	5	1	0	0	0	0	0
27JUL - 29JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10AUG - 12AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
24AUG - 26AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08SEP - 10SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21SEP - 23SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05OCT - 07OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	1	6	81	196	68	66	93	95	148	63	31	22	23	14	10	5	0	0
DATES	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9	125.0- 129.9	130.0- 134.9+	N	MEAN	MIN	MED	MAX	SD	
02MAR - 04MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
16MAR - 18MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
29MAR - 31MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
05APR - 09APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
12APR - 15APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
19APR - 22APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
26APR - 29APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
03MAY - 06MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	95	10.1	5.9	10.1	12.3	0.9	
10MAY - 12MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	80	11.2	8.1	11.4	12.6	0.8	
17MAY - 21MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	56	11.0	8.6	10.9	16.3	1.2	
24MAY - 28MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	107	13.9	7.3	14.0	22.1	2.7	
01JUN - 04JUN	0	0	0	0	0	0	0	0	0	0	0	0	0	111	18.8	7.5	19.8	25.9	4.2	
07JUN - 10JUN	0	0	0	0	0	0	0	0	0	0	0	0	0	122	17.0	8.0	17.9	29.2	5.6	
14JUN - 18JUN	0	0	0	0	0	0	0	0	0	0	0	0	0	198	21.9	9.5	20.3	46.0	6.5	
21JUN - 24JUN	0	0	0	0	0	0	0	0	0	0	0	0	0	67	25.4	13.5	23.6	44.0	8.1	
28JUN - 01JUL	1	0	0	0	0	0	0	0	0	0	0	0	0	78	37.9	13.4	41.0	70.0	13.0	
13JUL - 15JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	8	36.5	29.0	36.5	42.0	3.9	
27JUL - 29JUL	1	0	0	0	0	0	0	0	0	0	0	0	0	1	70.0	70.0	70.0	70.0	.	
10AUG - 12AUG	0	1	0	0	0	0	0	0	0	0	0	0	0	2	63.0	47.0	63.0	79.0	22.6	
24AUG - 26AUG	0	0	1	1	1	2	0	0	0	0	0	0	0	5	89.8	82.0	92.0	95.0	6.0	
08SEP - 10SEP	0	0	0	0	0	0	0	1	0	0	0	0	0	1	105.0	105.0	105.0	105.0	.	
21SEP - 23SEP	0	0	0	0	0	0	1	0	1	0	0	0	0	2	105.0	100.0	105.0	110.0	7.1	
05OCT - 07OCT	0	0	0	0	0	1	2	0	0	0	0	0	1	4	106.5	95.0	100.5	130.0	15.9	
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	2	1	1	1	1	3	3	1	1	0	0	0	1	937						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-14 Length Frequency Distribution of Young-of-Year American Shad in Hudson River Estuary Determined from Fall Juvenile Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9
06JUL -09JUL	0	0	0	0	0	1	1	2	12	6	6	14	0	0	0	0
19JUL -22JUL	0	0	0	0	0	2	5	1	4	1	4	7	7	4	1	0
02AUG -05AUG	0	0	0	0	0	0	0	1	1	4	0	2	1	6	4	1
16AUG -19AUG	0	0	0	0	0	0	0	0	0	3	0	1	1	2	1	3
30AUG -02SEP	0	0	0	0	0	0	0	0	0	0	2	5	3	0	0	2
13SEP -16SEP	0	0	0	0	0	0	0	0	0	0	0	1	5	3	0	1
27SEP -30SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
11OCT -14OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	4	7	2
25OCT -28OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08NOV -11NOV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29NOV -03DEC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	3	6	4	17	14	12	30	17	21	13	11
DATES	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9	125.0- 129.9	130.0- 134.9+	N	MEAN	MIN	MED	MAX	SD	
06JUL -09JUL	0	0	0	0	0	0	0	0	0	49	58.8	36.0	60.0	69.0	7.7	
19JUL -22JUL	0	0	0	0	0	0	0	0	0	36	61.0	37.0	65.0	80.0	13.3	
02AUG -05AUG	1	0	0	0	0	0	0	0	0	22	70.6	48.0	75.0	90.0	11.9	
16AUG -19AUG	3	3	0	0	0	0	0	0	0	17	80.6	56.0	85.0	97.0	14.1	
30AUG -02SEP	1	1	1	1	0	0	0	0	0	16	77.8	62.0	70.5	105.0	14.9	
13SEP -16SEP	1	2	2	0	1	0	1	0	0	17	86.1	68.0	78.0	124.0	16.7	
27SEP -30SEP	5	4	3	3	1	0	0	0	0	20	95.8	78.0	96.5	114.0	9.5	
11OCT -14OCT	3	12	11	7	4	2	2	0	2	56	99.3	76.0	99.5	133.0	13.3	
25OCT -28OCT	0	0	0	0	2	0	0	0	0	2	110.0	110.0	110.0	110.0	0.0	
08NOV -11NOV	1	0	1	0	0	0	0	0	0	2	98.5	93.0	98.5	104.0	7.8	
29NOV -03DEC	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====						
	15	22	18	11	8	2	3	0	2	237						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-15 Length Frequency Distribution of Young-of-Year American Shad in Hudson River Estuary Determined from Beach Seine Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9
15JUN-17JUN	0	0	9	61	50	15	3	0	0	0	0	0	0	0
29JUN-01JUL	0	0	14	15	23	16	17	9	3	4	3	0	0	0
12JUL-15JUL	0	0	1	7	13	24	21	18	14	6	9	15	4	2
26JUL-29JUL	0	0	0	0	0	0	2	9	8	7	9	21	32	15
09AUG-12AUG	0	0	0	0	0	0	1	0	5	8	8	29	27	10
23AUG-25AUG	0	0	0	0	0	0	0	0	1	2	2	8	10	28
07SEP-11SEP	0	0	0	0	0	0	0	0	0	0	0	6	16	7
20SEP-22SEP	0	0	0	0	0	0	0	0	0	0	0	0	6	8
04OCT-07OCT	0	0	0	0	0	0	0	0	0	0	0	0	3	7
18OCT-21OCT	0	0	0	0	0	0	0	0	0	0	0	0	5	8
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	24	83	86	55	44	36	31	27	31	79	103	85
DATES	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9+	N	MEAN	MIN	MED	MAX	SD
15JUN-17JUN	0	0	0	0	0	0	0	0	138	29.7	21.0	29.0	42.0	3.9
29JUN-01JUL	0	0	0	0	0	0	0	0	104	35.8	20.0	34.5	62.0	10.2
12JUL-15JUL	1	1	0	0	0	0	0	0	139	48.2	24.0	46.0	85.0	13.4
26JUL-29JUL	1	0	0	0	0	0	0	0	106	65.4	41.0	69.0	81.0	9.6
09AUG-12AUG	4	1	0	0	0	0	0	0	96	67.9	44.0	68.0	87.0	7.9
23AUG-25AUG	25	11	1	0	0	0	0	0	91	76.7	52.0	78.0	90.0	7.7
07SEP-11SEP	6	28	15	14	3	0	0	0	95	84.8	65.0	87.0	103.0	9.8
20SEP-22SEP	3	13	33	23	7	0	0	0	93	90.2	70.0	91.0	104.0	8.0
04OCT-07OCT	11	3	22	27	22	2	0	0	97	92.9	70.0	95.0	109.0	8.7
18OCT-21OCT	24	19	27	18	13	7	1	1	123	90.4	73.0	90.0	117.0	9.2
	=====	=====	=====	=====	=====	=====	=====	=====	=====					
	75	76	98	82	45	9	1	1	1082					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-16 Length Frequency Distribution of Young-of-Year Alewife in Hudson River Estuary Determined from Fall Juvenile Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9
06JUL-09JUL	0	0	0	0	0	0	10	11	15	5	0	0	1	0	0	0
19JUL-22JUL	0	0	0	0	0	0	1	6	8	3	3	4	4	3	0	0
02AUG-05AUG	0	0	0	0	0	0	0	4	3	4	2	2	3	1	0	0
16AUG-19AUG	0	0	0	0	0	0	0	0	0	5	4	1	3	1	4	1
30AUG-02SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
13SEP-16SEP	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	5
27SEP-30SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
11OCT-14OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	6
25OCT-28OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
08NOV-11NOV	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3
29NOV-03DEC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	0	11	21	26	17	9	9	11	7	12	19
DATES	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9	125.0- 129.9	130.0- 134.9	135.0- 139.9+	N	MEAN	MIN	MED	MAX	SD
06JUL-09JUL	0	0	0	0	0	0	0	0	0	0	42	49.5	41.0	49.5	72.0	6.1
19JUL-22JUL	0	0	0	0	0	0	0	0	0	0	32	58.8	44.0	56.5	77.0	10.4
02AUG-05AUG	0	0	0	0	0	0	0	0	0	0	20	59.2	46.0	57.5	76.0	9.1
16AUG-19AUG	0	1	0	0	0	0	0	0	0	0	21	70.0	57.0	69.0	96.0	11.4
30AUG-02SEP	1	1	0	0	0	0	0	0	0	0	3	89.7	83.0	91.0	95.0	6.1
13SEP-16SEP	3	3	0	0	0	0	0	0	0	0	15	86.2	65.0	89.0	99.0	10.1
27SEP-30SEP	4	5	2	0	0	0	0	0	0	0	15	92.9	83.0	93.0	103.0	5.9
11OCT-14OCT	11	10	7	2	1	0	0	0	0	0	40	94.4	82.0	94.5	110.0	6.9
25OCT-28OCT	1	2	0	0	0	0	0	0	0	1	6	99.8	81.0	95.5	140.0	20.8
08NOV-11NOV	1	1	0	0	0	0	0	0	0	0	6	87.5	76.0	88.0	97.0	6.8
29NOV-03DEC	0	0	0	0	0	0	1	0	0	0	2	102.5	85.0	102.5	120.0	24.7
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	21	23	9	2	1	0	1	0	0	1	202					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-17 Length Frequency Distribution of Young-of-Year Alewife in Hudson River Estuary Determined from Beach Seine Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9
15JUN-17JUN	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
29JUN-01JUL	0	0	0	0	0	0	20	14	1	0	3	0	1	3	0
12JUL-15JUL	0	0	0	0	0	0	36	22	9	5	1	2	0	0	1
26JUL-29JUL	0	0	0	0	0	0	1	3	10	7	4	7	0	3	2
09AUG-12AUG	0	0	0	0	0	0	0	0	1	0	10	11	4	5	4
23AUG-25AUG	0	0	0	0	0	0	0	0	0	1	3	11	14	12	7
07SEP-11SEP	0	0	0	0	0	0	0	0	0	0	1	8	12	16	11
20SEP-22SEP	0	0	0	0	0	0	0	0	0	0	1	5	6	3	6
04OCT-07OCT	0	0	0	0	0	0	0	0	0	0	0	0	3	5	3
18OCT-21OCT	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	0	59	39	21	13	23	44	41	47	35
DATES	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9	125.0- 129.9+	N	MEAN	MIN	MED	MAX	SD
15JUN-17JUN	0	0	0	0	0	0	0	0	0	2	42.5	41.0	42.5	44.0	2.1
29JUN-01JUL	0	0	0	0	0	0	0	0	0	42	48.5	40.0	45.0	77.0	10.3
12JUL-15JUL	0	0	0	0	0	0	0	0	0	78	47.2	41.0	45.0	82.0	7.4
26JUL-29JUL	1	1	0	0	0	0	0	0	0	41	61.4	43.0	59.0	91.0	11.5
09AUG-12AUG	2	2	0	0	0	0	0	0	0	39	70.6	53.0	68.0	93.0	9.0
23AUG-25AUG	13	4	2	2	0	0	0	0	0	69	77.9	55.0	76.0	102.0	10.1
07SEP-11SEP	14	9	2	1	1	1	1	0	0	77	81.4	62.0	80.0	117.0	10.6
20SEP-22SEP	4	3	2	3	2	0	0	0	0	35	82.4	63.0	82.0	107.0	12.7
04OCT-07OCT	10	10	5	6	2	3	0	0	1	48	91.7	71.0	90.0	130.0	11.7
18OCT-21OCT	0	2	0	1	0	0	0	0	0	5	88.2	72.0	90.0	103.0	11.8
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	44	31	11	13	5	4	1	0	1	436					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-18 Length Frequency Distribution of Young-of-Year Blueback Herring in Hudson River Estuary Determined from Fall Juvenile Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9
06JUL-09JUL	0	0	0	0	0	0	11	8	1	0	0
19JUL-22JUL	0	0	0	0	0	0	10	19	6	5	2
02AUG-05AUG	0	0	0	0	0	0	20	10	11	6	1
16AUG-19AUG	0	0	0	0	0	0	0	13	19	15	5
30AUG-02SEP	0	0	0	0	0	0	3	8	15	20	7
13SEP-16SEP	0	0	0	0	0	0	0	1	4	22	16
27SEP-30SEP	0	0	0	0	0	0	0	0	3	2	14
11OCT-14OCT	0	0	0	0	0	0	0	0	1	6	18
25OCT-28OCT	0	0	0	0	0	0	0	0	0	0	2
08NOV-11NOV	0	0	0	0	0	0	0	0	0	0	0
29NOV-03DEC	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	0	44	59	60	76	65
DATES	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9+	N	MEAN	MIN	MED	MAX	SD
06JUL-09JUL	0	0	0	0	0	20	44.3	41.0	43.5	52.0	3.2
19JUL-22JUL	1	0	0	0	0	43	48.7	41.0	48.0	69.0	6.2
02AUG-05AUG	0	1	0	0	0	50	48.3	41.0	46.0	74.0	7.2
16AUG-19AUG	3	3	2	0	0	60	55.7	45.0	53.5	78.0	8.0
30AUG-02SEP	4	1	0	0	0	61	55.5	44.0	56.0	73.0	6.2
13SEP-16SEP	9	6	2	1	1	64	62.0	49.0	61.0	88.0	7.3
27SEP-30SEP	25	9	5	2	0	62	66.5	50.0	66.0	80.0	6.3
11OCT-14OCT	32	14	5	0	0	77	66.5	54.0	66.0	79.0	5.1
25OCT-28OCT	1	0	0	1	0	4	70.0	64.0	66.5	83.0	9.0
08NOV-11NOV	1	0	0	0	0	1	66.0	66.0	66.0	66.0	.
29NOV-03DEC	0	0	0	0	0	0	.	.	.	.	.
	=====	=====	=====	=====	=====	=====					
	76	34	14	4	1	442					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-19 Length Frequency Distribution of Young-of-Year Blueback Herring in Hudson River Estuary Determined from Beach Seine Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9
15JUN-17JUN	0	0	0	0	0	0	0	0	0	0	0	0
29JUN-01JUL	0	0	0	0	0	0	6	3	0	0	0	0
12JUL-15JUL	0	0	0	0	0	0	38	7	4	2	0	0
26JUL-29JUL	0	0	0	0	0	0	13	14	5	4	0	0
09AUG-12AUG	0	0	0	0	0	0	12	18	18	9	3	3
23AUG-25AUG	0	0	0	0	0	2	7	17	31	9	3	5
07SEP-11SEP	0	0	0	0	0	0	2	9	17	29	6	3
20SEP-22SEP	0	0	0	0	0	0	1	4	6	16	24	21
04OCT-07OCT	0	0	0	0	0	0	0	1	2	20	34	37
18OCT-21OCT	0	0	0	0	0	0	0	2	3	13	33	36
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	2	79	75	86	102	103	105
DATES	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9+	N	MEAN	MIN	MED	MAX	SD
15JUN-17JUN	0	0	0	0	0	0	0	.	.	.	.	.
29JUN-01JUL	0	0	0	0	0	0	9	43.1	41.0	42.0	47.0	2.4
12JUL-15JUL	0	0	0	0	0	0	51	44.2	41.0	43.0	58.0	4.0
26JUL-29JUL	0	0	0	0	0	0	36	46.6	41.0	45.5	57.0	5.0
09AUG-12AUG	7	1	0	0	0	0	73	52.9	41.0	50.0	75.0	9.4
23AUG-25AUG	2	4	1	0	0	0	81	53.5	37.0	51.0	80.0	9.4
07SEP-11SEP	2	0	0	0	0	0	73	55.4	43.0	55.0	73.0	5.7
20SEP-22SEP	8	4	4	1	0	0	98	63.1	42.0	63.0	86.0	8.1
04OCT-07OCT	19	8	5	0	0	0	136	65.2	49.0	65.0	82.0	6.5
18OCT-21OCT	31	22	7	2	1	1	155	68.0	48.0	68.0	98.0	8.0
	=====	=====	=====	=====	=====	=====	=====					
	69	39	17	3	1	1	712					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-20 Length Frequency Distribution of Young-of-Year Spottail Shiner in Hudson River Estuary Determined from Fall Juvenile Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9
06JUL - 09JUL	0	0	0	0	0	1	0	0	0	0	0
19JUL - 22JUL	0	0	0	0	0	0	0	0	0	0	0
02AUG - 05AUG	0	0	0	0	0	0	0	1	2	0	0
16AUG - 19AUG	0	0	0	0	0	0	0	0	0	0	0
30AUG - 02SEP	0	0	0	0	0	0	0	0	0	0	0
13SEP - 16SEP	0	0	0	0	0	0	0	0	0	0	0
27SEP - 30SEP	0	0	0	0	0	0	0	0	0	0	1
11OCT - 14OCT	0	0	0	0	0	0	0	0	0	1	0
25OCT - 28OCT	0	0	0	0	0	0	0	0	0	0	0
08NOV - 11NOV	0	0	0	0	0	0	0	0	0	0	1
29NOV - 03DEC	0	0	0	0	0	0	0	0	0	0	1
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	1	0	1	2	1	3
DATES	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9+	N	MEAN	MIN	MED	MAX	SD
06JUL - 09JUL	0	0	0	0	0	1	36.0	36.0	36.0	36.0	.
19JUL - 22JUL	0	0	0	0	0	0	.	.	.	.	.
02AUG - 05AUG	0	0	0	0	0	3	50.7	49.0	50.0	53.0	2.1
16AUG - 19AUG	0	0	0	0	0	0	.	.	.	.	.
30AUG - 02SEP	0	0	0	0	0	0	.	.	.	.	.
13SEP - 16SEP	2	0	1	0	0	3	71.0	67.0	69.0	77.0	5.3
27SEP - 30SEP	1	0	0	0	0	2	64.5	61.0	64.5	68.0	4.9
11OCT - 14OCT	3	8	10	2	0	24	73.7	56.0	74.5	84.0	5.7
25OCT - 28OCT	0	0	0	0	0	0	.	.	.	.	.
08NOV - 11NOV	2	2	7	9	2	23	78.3	63.0	79.0	87.0	6.1
29NOV - 03DEC	0	0	1	3	1	6	79.0	64.0	82.0	85.0	7.7
	=====	=====	=====	=====	=====	=====					
	8	10	19	14	3	62					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-21 Length Frequency Distribution of Young-of-Year Spottail Shiner in Hudson River Estuary Determined from Beach Seine Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9
15JUN-17JUN	0	5	1	2	0	0	0	0	0	0	0
29JUN-01JUL	0	8	30	80	9	1	0	0	0	0	0
12JUL-15JUL	0	0	1	0	16	65	44	5	0	0	0
26JUL-29JUL	0	0	0	0	0	3	16	26	20	1	0
09AUG-12AUG	0	0	0	0	0	5	6	19	16	19	4
23AUG-25AUG	0	0	0	0	0	0	0	1	6	24	14
07SEP-11SEP	0	0	0	0	0	0	0	0	3	5	16
20SEP-22SEP	0	0	0	0	0	0	0	0	1	8	15
04OCT-07OCT	0	0	0	0	0	0	0	0	2	0	9
18OCT-21OCT	0	0	0	0	0	0	0	0	0	2	9
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	13	32	82	25	74	66	51	48	59	67
DATES	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9+	N	MEAN	MIN	MED	MAX	SD	
15JUN-17JUN	0	0	0	0	8	20.1	15.0	17.5	29.0	5.3	
29JUN-01JUL	0	0	0	0	128	25.5	16.0	26.0	37.0	3.3	
12JUL-15JUL	0	0	0	0	131	38.3	24.0	38.0	48.0	3.6	
26JUL-29JUL	0	0	0	0	66	47.0	36.0	47.5	57.0	4.5	
09AUG-12AUG	0	0	0	0	71	50.8	36.0	51.0	64.0	6.4	
23AUG-25AUG	19	7	0	0	74	61.6	49.0	61.0	73.0	5.7	
07SEP-11SEP	29	18	4	0	77	66.2	51.0	66.0	77.0	5.5	
20SEP-22SEP	10	15	8	3	63	67.0	50.0	66.0	81.0	7.4	
04OCT-07OCT	16	21	5	1	54	68.8	51.0	69.5	80.0	5.7	
18OCT-21OCT	13	17	8	1	52	68.9	59.0	69.5	80.0	5.7	
	=====	=====	=====	=====	=====						
	87	78	25	5	724						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-22 Length Frequency Distribution of Young-of-Year White Catfish in Hudson River Estuary Determined from Fall Juvenile Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9
06JUL-09JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19JUL-22JUL	0	2	0	2	2	2	0	0	0	0	0	0	0	0
02AUG-05AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16AUG-19AUG	0	0	0	0	0	0	0	0	1	1	0	0	0	0
30AUG-02SEP	0	0	0	0	0	0	0	0	1	0	2	2	0	2
13SEP-16SEP	0	0	0	0	0	0	0	0	0	0	2	0	0	0
27SEP-30SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11OCT-14OCT	0	0	0	0	0	0	0	0	0	0	0	0	1	0
25OCT-28OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08NOV-11NOV	0	0	0	0	0	0	0	0	0	0	0	0	1	1
29NOV-03DEC	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	2	0	2	2	2	0	0	2	1	4	2	2	3
DATES	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9+	N	MEAN	MIN	MED	MAX	SD	
06JUL-09JUL	0	0	0	0	0	0	0	0	.	.	.	.	.
19JUL-22JUL	0	0	0	0	0	0	0	8	27.3	15.0	30.0	36.0	8.3	
02AUG-05AUG	0	0	0	0	0	0	0	0	.	.	.	.	.
16AUG-19AUG	0	0	0	0	0	0	0	3	56.3	51.0	58.0	60.0	4.7	
30AUG-02SEP	0	1	0	0	0	0	0	8	69.1	50.0	67.0	86.0	11.4	
13SEP-16SEP	1	0	2	1	0	0	0	6	81.7	62.0	88.0	96.0	15.4	
27SEP-30SEP	1	0	0	2	0	0	0	3	93.0	82.0	98.0	99.0	9.5	
11OCT-14OCT	2	1	1	2	2	1	1	11	93.9	73.0	97.0	110.0	11.0	
25OCT-28OCT	1	1	0	3	2	0	0	7	94.3	82.0	96.0	100.0	6.8	
08NOV-11NOV	3	1	0	1	1	1	0	9	87.6	74.0	83.0	105.0	11.4	
29NOV-03DEC	0	0	0	0	0	0	0	0	.	.	.	.	.
	=====	=====	=====	=====	=====	=====	=====	=====						
	8	4	3	9	5	2	1	55						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-23 Length Frequency Distribution of Young-of-Year White Catfish in Hudson River Estuary Determined from Beach Seine Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9+	N	MEAN	MIN	MED	MAX	SD
15JUN-17JUN	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
29JUN-01JUL	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
12JUL-15JUL	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
26JUL-29JUL	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
09AUG-12AUG	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
23AUG-25AUG	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
07SEP-11SEP	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
20SEP-22SEP	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
04OCT-07OCT	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
18OCT-21OCT	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====					
	0	0	0	0	0	0	0	0	0	0	0	0					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-24 Length Frequency Distribution of Young-of-Year Weakfish in Hudson River Estuary Determined from Fall Juvenile Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9
06JUL-09JUL	1	2	1	1	6	7	5	4	1	8	0	0	0	0	0	0	0	0	0
19JUL-22JUL	9	11	13	10	14	8	6	5	3	1	4	0	2	0	2	0	0	0	0
02AUG-05AUG	0	4	6	3	4	8	6	6	6	3	7	2	2	5	2	1	1	0	0
16AUG-19AUG	0	0	0	1	2	0	7	1	3	1	4	2	7	8	3	3	1	0	1
30AUG-02SEP	0	0	0	0	0	0	2	1	0	0	0	3	2	1	2	5	2	3	6
13SEP-16SEP	0	0	0	0	0	0	0	0	0	1	1	0	3	0	0	4	2	7	5
27SEP-30SEP	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0	1	2
11OCT-14OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	6	4
25OCT-28OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08NOV-11NOV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29NOV-03DEC	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	10	17	20	15	26	23	26	17	13	15	17	7	17	15	12	15	7	17	18
DATES	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9	125.0- 129.9	130.0- 134.9	135.0- 139.9	140.0- 144.9	145.0- 149.9	150.0- 154.9	155.0- 159.9	160.0- 164.9	165.0- 169.9+	N	MEAN	MIN	MED	MAX	SD
06JUL-09JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	36	40.2	13.0	39.5	57.0	12.1
19JUL-22JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	88	32.4	11.0	30.0	83.0	16.3
02AUG-05AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	67	47.9	15.0	46.0	92.0	19.5
16AUG-19AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	46	64.5	29.0	68.5	102.0	17.5
30AUG-02SEP	3	4	1	0	2	0	2	0	0	0	0	0	0	40	92.6	42.0	95.5	139.0	23.3
13SEP-16SEP	2	4	3	2	1	0	0	0	0	1	0	1	0	37	101.1	58.0	100.0	164.0	21.0
27SEP-30SEP	1	2	1	2	0	0	1	1	0	0	0	0	0	16	103.6	64.0	103.5	142.0	22.6
11OCT-14OCT	3	6	7	2	10	2	3	1	2	1	0	3	2	56	120.9	80.0	117.5	200.0	22.8
25OCT-28OCT	2	3	0	1	5	2	0	0	1	0	0	1	0	15	125.2	106.0	126.0	162.0	15.1
08NOV-11NOV	2	1	0	0	1	3	1	1	0	0	0	0	0	9	124.8	108.0	130.0	141.0	12.4
29NOV-03DEC	0	1	0	0	0	0	0	0	0	0	0	0	0	2	82.5	55.0	82.5	110.0	38.9
	13	21	12	7	19	7	7	3	3	2	0	5	2	412					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-25 Length Frequency Distribution of Young-of-Year Weakfish in Hudson River Estuary Determined from Beach Seine Survey, 2004

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9
15JUN-17JUN	0	0	0	0	0	0	0	0	0	0	0	0
29JUN-01JUL	0	0	0	0	0	0	0	0	0	0	0	0
12JUL-15JUL	0	0	0	0	0	0	0	0	0	0	0	0
26JUL-29JUL	0	0	0	0	0	0	0	0	1	0	0	1
09AUG-12AUG	0	0	0	0	0	0	0	0	0	0	0	0
23AUG-25AUG	0	0	0	0	0	0	0	0	0	0	0	0
07SEP-11SEP	0	0	0	0	0	0	0	0	0	0	0	0
20SEP-22SEP	0	0	0	0	0	0	0	0	0	0	0	0
04OCT-07OCT	0	0	0	0	0	0	0	0	0	0	0	0
18OCT-21OCT	0	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	0	0	0	1	0	0	1
DATES	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9+	N	MEAN	MIN	MED	MAX	SD
15JUN-17JUN	0	0	0	0	0	0	0	.	.	.	.	.
29JUN-01JUL	0	0	0	0	0	0	0	.	.	.	.	.
12JUL-15JUL	0	0	0	0	0	0	0	.	.	.	.	.
26JUL-29JUL	0	0	0	1	1	0	4	74.3	52.0	77.5	90.0	18.5
09AUG-12AUG	0	0	0	0	0	1	1	99.0	99.0	99.0	99.0	.
23AUG-25AUG	0	0	0	0	0	0	0	.	.	.	.	.
07SEP-11SEP	0	0	0	0	0	0	0	.	.	.	.	.
20SEP-22SEP	0	0	0	0	0	0	0	.	.	.	.	.
04OCT-07OCT	0	0	0	0	0	0	0	.	.	.	.	.
18OCT-21OCT	0	0	0	0	0	0	0	.	.	.	.	.
	=====	=====	=====	=====	=====	=====	=====					
	0	0	0	1	1	1	5					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation