

Estimate of the 2008 Harvest  
of Spring Coastal Migrant Striped Bass in Chesapeake Bay

Prepared by

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This report presents the calculation of the 2008 Maryland spring harvest of coastal migrant striped bass in Chesapeake Bay. The method used to estimate the spring trophy season harvest in Maryland was presented in detail in Jones (2003), Barker and Sharov (2004), and Sharov et al. (2005). Results of the 2008 calculations are summarized in Table 1. The specific steps used in the calculation are as follows:

#### *Estimation of harvest.*

- Maryland charter boat logbook reports provided the census values of daily charter boat harvest (Table 1).
- NOAA MRFSS survey provided estimates of harvest for MD private/rental boats for Waves 2 and 3 (Table 1).
- VMRC provided the preliminary estimate of VA migratory striped bass harvest.

#### *Harvest apportioned by time.*

- The migrant harvest season overlaps parts of both Wave 2 and 3 of the MRFSS survey. Length distribution of the harvest is known to change over this time period, so total harvest was apportioned into 2-week intervals between April 19 and June 15.
- All Wave 2 landings occurred in the last 2 weeks of the wave.
- 2-week interval proportions for Wave 3 landings were developed as the proportions of the harvest registered in the Maryland charter boat logbook reports (Table 1).
- Total Maryland striped bass harvest per interval was calculated as charter boat harvest + private/rental harvest (Table 1).

#### *Harvest apportioned by length.*

- Data from the Maryland DNR charter boat volunteer survey were used to develop the length frequency distribution of the Maryland charter boat catch for each 2-week interval (Table 2A). Data from the Maryland volunteer private angler survey were used to develop the length frequency distribution of the Maryland private angler catch and the Virginia catch (Table 2B). For the 2 week periods from May 16-31 and June 1-15, we supplemented the length frequency data provided by the Maryland volunteer private angler survey with charter boat volunteer survey due to small samples of fish reported.
- Harvest at each interval was distributed by the length frequency distribution for each 2-week interval.
- The number of migrants harvested in Maryland during this period was determined by applying length-specific migration probabilities. These probabilities were derived from the estimate of the number of striped bass tagged on the spawning grounds in Maryland that migrate to the Atlantic coast before December of the first year at large (Dorazio et al. 1994). The result was a migrant and resident harvest for each 2-week interval, distributed among interval-specific length groups (Table 3).
- The total 2008 Maryland spring harvest of coastal migrant striped bass in Chesapeake Bay was calculated as the sum over all length groups and 2-week intervals.
- The preliminary estimate of the migrant harvest for Virginia's portion of Chesapeake Bay was provided by VMRC, based on mandatory reporting by recreational anglers and charter boat captains (275 fish).

*Statement of harvest estimate.*

The estimate of the 2008 Chesapeake Bay spring migrant harvest is 36,166 fish. The Maryland coastal migrant harvest is 35,891 migrants (Table 1). The VMRC preliminary estimate of the spring 2008 migrant harvest in Virginia is 275 fish.

The 2008 Chesapeake Bay spring migrant harvest was very similar to the 2007 harvest (36,328 fish), and significantly lower than 2006 (67,772) even though the 2008 spring season regulations did not include a slot limit as in 2007 designed to reduce harvest.

**References**

Barker, L. S., A. Sharov 2004. Estimate of the 2004 Harvest and 2005 Quota for Spring Coastal Migrant Striped Bass in Chesapeake Bay.

Dorazio, R. M., K. A. Hattala, C. B. McCollough and J. E. Skjeveland. 1994. Tag recovery estimates of migration of striped bass from spawning areas of Chesapeake Bay. Transactions of the American Fisheries Society 123: 150-163.

Jones, P. 2003. Estimates of the harvest of coastal migrant striped bass in Chesapeake Bay in the spring of 2003. Report to the ASMFC Striped Bass Technical Committee, November 2003.

Sharov, A., L. S. Barker, and L. Warner. 2005. Estimate of the 2005 Harvest and 2006 Quota for Spring Coastal Migrant Striped Bass in Chesapeake Bay. Maryland Department of Natural Resources, Annapolis MD.

**Table 1.** 2008 Chesapeake Bay spring striped bass migrant harvest, distributed among 2-week intervals, based on data from Maryland charter boat log reports, MRFSS Maryland recreational harvest estimate and VMRC reported migrant harvest (estimate as of 9/4/08).

	Interval	Charter Harvest (% by interval)	Md Charter Harvest	Md Private Harvest	Md Total Harvest	Md Charter Migrants	Md Private Migrants	Md Total Migrants	Va Migrants	CBay Total Migrants
<b>Wave 2</b>	Apr 1-18	0	0	0	0	0	0	0		
	Apr 19-30	100	9,148	13,986	23,134	7,364	11,567	18,931		
<b>Wave 3</b>	May 1-13	21	6,353	11,816	18,169	4,941	9,926	14,867		
	May 16-31	29	8,896	16,545	25,441	555	949	1,504		
	June 1-15	26	8,087	15,041	23,128	246	343	589		
	June 16-30	24	7,377	13,720	21,097					
	Wave 3 total	100	30,713	57,121	87,834				275	
<b>Season total</b>			32,484	57,388	89,872			35,891	275	36,166

**Table 2A.** Length distribution of the 2008 Maryland striped bass spring season harvest as voluntarily reported by charter boat captains, by 2-week intervals between April 19 and June 15. (Shaded areas represent no-take size groups.)

Length group	April 19-30	May 1-13	May 16-31	June 1-15	TOTAL
18			129	73	202
19			373	177	550
20			305	113	418
21			209	110	319
22			179	68	247
23			122	45	167
24			120	48	168
25			78	20	98
26			75	13	88
27			50	15	65
28	23	18	49	19	109
29	65	49	37	11	162
30	95	49	35	7	186
31	121	58	14	1	194
32	227	125	20	6	378
33	281	148	7	3	439
34	348	166	9	2	525
35	321	185	10	1	517
36	424	221	12	1	658
37	395	174	7	2	578
38	384	175	10	0	569
39	346	132	1	0	479
40	202	76	2	0	280
41	168	58	6	0	232
42	86	38	2	0	126
43	59	15	2	0	76
44	38	12	1	0	51
45	15	1	0	0	16
46	14	2	0	0	16
47	4	1	0	0	5
48	5	1	0	0	6
49	2	1	0	0	3
50	1	0	0	0	1
51	1	0	0	0	1
52	0	0	0	0	0
<b>n</b>	<b>3625</b>	<b>1705</b>	<b>1864</b>	<b>735</b>	<b>7929</b>

**Table 2B.** Length distribution of the 2008 Maryland striped bass spring season harvest as voluntarily reported by private anglers, by 2-week intervals between April 19 and June 15. Note, due to small sample sizes during May 16-31 and June 1-15 intervals, the length frequency distribution from the volunteer angler survey was supplemented by the voluntary reports from charter boat captains.

Length group	April 19-30	May 1-13	May 16-31	June 1-15	TOTAL
18	0	0	1	2	3
19	0	0	3	2	5
20	0	0	4	0	4
21	0	0	0	2	2
22	0	0	2	1	3
23	0	0	0	4	4
24	0	0	0	2	2
25	0	0	0	2	2
26	0	0	0	1	1
27	0	0	1	1	2
28	0	0	0	1	1
29	3	4	1	0	8
30	5	2	1	1	9
31	9	0	0	0	9
32	20	4	0	0	24
33	18	2	0	0	20
34	24	6	0	0	30
35	24	8	0	0	32
36	37	9	1	0	47
37	33	7	0	0	40
38	39	14	0	0	53
39	28	11	0	0	39
40	11	8	0	0	19
41	15	1	0	0	16
42	11	4	0	0	15
43	3	2	0	0	5
44	4	2	0	0	6
45	0	0	0	0	0
46	0	0	0	0	0
47	3	0	0	0	3
48	0	0	0	0	0
49	0	0	0	0	0
<b>n</b>	<b>287</b>	<b>84</b>	<b>14</b>	<b>19</b>	<b>404</b>

**Table 3.** 2008 Maryland spring striped bass migrant harvest, distributed among 1 inch length groups (length as total length).

Length group (inches)	Apr 19-30			May 1-13			May 16-31			June 1-15		
	Charter	Private	Total	Charter	Private	Total	Charter	Private	Total	Charter	Private	Total
	18	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	4	0	4	4	0	4
21	0	0	0	0	0	0	5	0	5	6	0	6
22	0	0	0	0	0	0	7	0	7	6	0	6
23	0	0	0	0	0	0	7	0	7	6	0	6
24	0	0	0	0	0	0	12	0	12	11	0	11
25	0	0	0	0	0	0	12	0	12	7	0	7
26	0	0	0	0	0	0	19	35	54	8	0	8
27	0	0	0	0	0	0	20	37	57	14	0	14
28	7	0	7	9	0	9	30	55	85	27	51	78
29	32	28	60	35	109	144	34	65	99	23	42	66
30	67	68	135	51	79	130	47	89	135	22	45	66
31	118	170	288	84	0	84	26	48	74	4	8	12
32	290	493	783	236	285	520	48	89	137	33	61	94
33	443	548	991	344	176	520	21	39	59	21	37	58
34	641	854	1,495	452	616	1,068	31	58	89	16	29	45
35	660	953	1,613	562	917	1,478	39	72	111	9	16	25
36	938	1,581	2,520	722	1,110	1,833	50	100	151	10	17	27
37	918	1,480	2,398	597	906	1,503	31	57	88	20	37	57
38	920	1,805	2,725	619	1,870	2,489	45	84	129	0	0	0
39	845	1,321	2,167	476	1,498	1,974	5	9	13	0	0	0
40	500	525	1,025	278	1,103	1,381	9	17	27	0	0	0
41	419	722	1,141	213	139	352	28	52	81	0	0	0
42	215	532	747	141	558	699	9	17	27	0	0	0
43	148	146	294	56	280	336	10	18	27	0	0	0
44	96	194	290	45	281	325	5	9	14	0	0	0
45	38	0	38	4	0	4	0	0	0	0	0	0
46	35	0	35	7	0	7	0	0	0	0	0	0
47	10	146	156	4	0	4	0	0	0	0	0	0
48	13	0	13	4	0	4	0	0	0	0	0	0
49	5	0	5	4	0	4	0	0	0	0	0	0
50	3	0	3	0	0	0	0	0	0	0	0	0
51	3	0	3	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0
<b>n</b>	<b>7,364</b>	<b>11,567</b>	<b>18,931</b>	<b>4,941</b>	<b>9,926</b>	<b>14,867</b>	<b>555</b>	<b>949</b>	<b>1,504</b>	<b>246</b>	<b>343</b>	<b>589</b>

**Figure 1.** Comparison of Maryland's 2006 through 2008 spring striped bass migrant harvests, apportioned by length.

