

Final Estimate for 2022 of
Spring Harvest of Coastal Migrant Striped Bass in Chesapeake Bay

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INTRODUCTION

This report presents the final estimates of the 2022 Maryland and Virginia spring harvest of coastal migrant striped bass in Chesapeake Bay (Table 1). The method used to determine coastal migrants in Maryland was presented in detail in Jones (2003), Barker and Sharov (2004), and Sharov et al. (2005). This report is submitted yearly to the Atlantic States Marine Fisheries Commission (ASMFC) as an appendix to the annual compliance reporting, and as an appendix to the recreational fishing section of the Chesapeake Bay Finfish Investigations Federal Aid Report to the U. S. Fish and Wildlife Service (USFWS).

ASMFC implemented Addendum VI to the Striped Bass Management Plan in 2019 in order to reduce fishing mortality to a level at or below the target. Addendum VI manages the trophy season as part of the coastal fishery and requires an 18% reduction in harvest from 2017 removals. Therefore, Maryland managed the trophy fishery with a minimum size limit of 35 inches and moved the opening day from the third Saturday in April to May 1. All striped bass fishing is closed, including catch and release, from April 1 to April 30. Addendum VI also required a Chesapeake Bay reduction in the summer/fall fishery. The regulations were one fish \geq 19 inches from May 16 to July 15 and August 1 to December 10. A closure period was in place from July 16 to July 31 including catch and release.

METHODS

Estimation of harvest

Maryland Department of Natural Resources (DNR) charter boat logbook reports provided the census values of daily charter boat harvest in numbers of fish (Table 1). Due to increased online reporting of charter boat logbook data, Standard Atlantic Fisheries Information System (SAFIS) data were also used for the charter calculation. The NOAA Marine Recreational

Information Program (MRIP) survey provided final estimates of harvest for Maryland private and rental boats, in numbers of fish, for Wave 3 (May/June; Table 1). The Virginia Marine Resources Commission (VMRC) provided mandatory spring season striped bass reporting data.

Harvest apportioned by time

The migrant harvest season occurs during Wave 3 of the MRIP survey. Length distribution of the harvest is known to change over this time period, so total harvest was apportioned into 2-week intervals between May 1 and June 15. The 2-week interval proportions for Wave 3 landings were developed as the proportions of the harvest recorded in the Maryland charter boat logbook and SAFIS reports (Table 1). Total Maryland striped bass harvest per interval was calculated as the sum of charter boat harvest (DNR) and private and rental harvest (MRIP; Table 1).

Harvest apportioned by length

Data from the DNR Volunteer Charter Boat Survey and Charter Creel Survey were used to develop the length frequency distribution of the Maryland charter boat catch for each 2-week interval (Table 2). Data from the Volunteer Charter Boat Survey were also used to develop the length frequency distribution for the Maryland private angler catch due to small samples of fish reported in the Volunteer Angler Survey. Harvest in each interval was distributed by the length frequency distribution for each 2-week interval. The number of migrants harvested in Maryland during the spring trophy season 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 estimate for each 2-week interval, distributed among interval-specific length groups (Table 3).

The total 2022 Maryland spring harvest of coastal migrant striped bass in Chesapeake Bay was calculated as the sum of migrants over all length groups and 2-week intervals from both sectors (charter and private). The 2022 spring migrant season in Virginia was closed to harvest.

RESULTS AND DISCUSSION

DNR charter boat estimates of harvest were queried on 1/12/2023. The total charter boat harvest was 501 fish from May 1 to May 15, 13,116 fish from May 16 to May 31 and 14,283 fish from June 1 to June 15. Final MRIP private and rental boat estimates were downloaded on 5/1/2023. Private and rental boat total harvest was 905 fish from May 1 to May 15, 28,972 fish from May 16 to May 31 and 31,688 fish from June 1 to June 15 (Table 1).

The final estimate of the 2022 Chesapeake Bay spring migrant harvest is 2,814 fish, a 53% decrease from 2021 and below the 2006-2022 average of 33,075 fish (Table 4). The Maryland portion of the Chesapeake Bay migrant harvest is 2,814 migrants (Table 1). The Maryland charter boat migrant harvest is 937 fish. The Maryland private boat migrant harvest is 1,877 fish. The estimate of the spring 2022 migrant harvest in Virginia is 0 fish (season closed). Annual spring migrant harvest by length group was sporadic for 2022 compared to 2021, which had a peak of fish at 39 inches (Figure 1). As required by ASMFC Addendum VI, an increased minimum size limit of 35 inches for May 1 to May 15 and a minimum size of 19 inches for May 16 to December 10 was in place during 2022. The length frequency distribution derived from the Volunteer Charter Boat Survey data reflected this change in regulations (Table 2, Figure 1).

REFERENCES

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Table 1. 2022 Chesapeake Bay spring striped bass migrant harvest, distributed among 2-week intervals, based on data from Maryland charter boat logbook reports, MRIP Maryland recreational harvest estimate and VA calculated migrant harvest.* Shaded time intervals outside of the May 1st to June 15th season are shown to demonstrate partitioning of the total harvest.

	Interval	Charter Harvest (% by interval)	Md Charter Harvest (Logbook)	Md Private Harvest (MRIP)	Md Total Harvest	Md Charter Migrants	Md Private Migrants	Md Total Migrants	Va Migrants	CBay Total Migrants
Wave 2		0	0	0	0	0	0	0		
Wave 3	May 1-15	1	501	905	1,406	486	879	1,365		
	May 16-31	32	13,116	28,972	42,088	220	486	706		
	June 1-15	35	14,283	31,688	45,971	231	513	744		
	June 16-30	33	13,479	29,877	43,356					
	<i>Wave 3 total</i>	<i>100</i>	<i>41,379</i>	<i>90,537</i>	<i>132,821</i>					
Season total			27,900	61,565	89,465	937	1,877	2,814	0	2,814

* – Numbers may not sum due to rounding

1 – Data from MD DNR charter logbooks and SAFIS (1/12/2023)

2 – Data from MRIP (retrieved from NOAA NMFS website 5/1/2023)

3 – Data from VMRC (spring 2020 season closed)

Table 2. Length distribution, in inches, of the 2022 Maryland striped bass spring season harvest as voluntarily reported by charter boat captains by 2-week intervals between May 1 and June 15. Shaded areas represent no-take size groups.

Length Group	May 1-15	May 16-31	June 1-15	Total
17	0	0	0	0
18	0	4	5	9
19	0	32	20	52
20	0	55	37	92
21	0	42	33	75
22	0	31	30	61
23	0	18	27	45
24	0	20	24	44
25	0	15	13	28
26	0	5	5	10
27	0	3	2	5
28	0	4	1	5
29	0	0	2	2
30	0	4	0	4
31	0	0	0	0
32	0	0	1	1
33	0	0	0	0
34	2	0	0	2
35	1	0	0	1
36	0	0	0	0
37	0	0	0	0
38	0	0	0	0
39	3	0	0	3
40	9	0	0	9
41	3	0	0	3
42	6	0	0	6
43	3	0	0	3
44	1	0	0	1
45	2	0	0	2
46	5	0	0	5
47	1	0	0	1
48	0	0	0	0
49	0	0	0	0
50	0	0	0	0
51	1	0	0	1
52	0	0	0	0
53	0	0	0	0
54	0	0	0	0
55	0	0	0	0
56	0	0	0	0
	37	233	200	470

Table 3. 2022 Maryland spring striped bass migrant harvest, distributed among 1 inch length groups (length as total length).*

Length group (inches)	May 1-15			May 16-31			June 1-15		
	Charter	Private	Total	Charter	Private	Total	Charter	Private	Total
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	9	21	30	8	18	26
21	0	0	0	12	26	37	12	26	37
22	0	0	0	14	31	45	17	38	55
23	0	0	0	13	29	42	25	55	80
24	0	0	0	23	51	75	35	79	114
25	0	0	0	28	62	90	31	68	99
26	0	0	0	15	33	48	19	42	61
27	0	0	0	14	31	45	12	26	38
28	0	0	0	29	64	93	9	20	29
29	0	0	0	0	0	0	28	61	89
30	0	0	0	63	139	202	0	0	0
31	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	36	80	116
33	0	0	0	0	0	0	0	0	0
34	20	36	55	0	0	0	0	0	0
35	11	20	31	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0
39	39	71	110	0	0	0	0	0	0
40	119	216	335	0	0	0	0	0	0
41	40	73	113	0	0	0	0	0	0
42	81	146	226	0	0	0	0	0	0
43	40	73	113	0	0	0	0	0	0
44	14	24	38	0	0	0	0	0	0
45	27	49	76	0	0	0	0	0	0
46	68	122	190	0	0	0	0	0	0
47	14	24	38	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0
51	14	24	38	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0
n	486	879	1,365	220	486	706	231	513	744

*Note: numbers may not sum due to rounding.

Table 4. Harvest of migrant striped bass in the spring fishery from 2003-2022 (Individual estimates not available for all sectors prior to 2006). Average was only calculated for 2006-2022 due to techniques used to calculate migrant harvest.

Year	MD Charter Migrant Harvest	MD Angler Migrant Harvest	VA Migrant Harvest	Total Migrant Harvest
2003	43248*		242	43,490
2004	31218*		186	31,404
2005	64345*		1,319	65,664
2006	15,570	47,878	4,323	67,771
2007	9,359	26,229	740	36,328
2008	13,106	22,785	275	36,166
2009	12,740	77,799	243	90,782
2010	12,504	7,261	82	19,847
2011	13,673	22,616	145	36,434
2012	9,335	8,796	77	18,208
2013	13,724	34,810	23	48,557
2014	12,311	26,599	11	38,921
2015	5,771	24,725	37	30,533
2016	9,524	59,538	169	69,231
2017	4,370	18,483	39	22,892
2018	2,867	14,237	94	17,198
2019	937	12,696	0	13,633
2020	1,395	5,552	0	6,947
2021	1,764	4,252	0	6,016
2022	937	1,877	0	2,814
Avg (2006-22)	8,229	24,478	368	33,075

Figure 1. Comparison of Maryland's 2019 through 2022 spring striped bass migrant harvests, apportioned by length.

