



# Backgrounder

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## Underwater Bay Grasses in the Chesapeake Bay and Rivers in 2009

In 2009, 85,899 acres of underwater bay grasses were mapped in Chesapeake Bay and its tributaries. This is a 12 percent increase from 2008, when 76,860 acres were mapped.

Bay grass acreage increased in all three geographic zones – upper, middle and lower – for the second time since 2001. Of the 93 segments mapped, bay grass acreage increased in 39, decreased in 19 and remained unvegetated in 35.

Bay grass distribution was mapped from black and white aerial photographs that were taken between May and November 2009, at a scale of 1:24,000, encompassing 173 flight lines.






Map of Chesapeake Bay and its tributaries showing changes in bay grass abundance by segment and zone.

## Upper Bay Zone

In the Upper Bay Zone (21 segments extending from the Chesapeake Bay Bridge north), bay grass acreage increased 3 percent from 22,953 acres in 2008 to 23,598 acres in 2009.

Three of the 21 segments increased by at least 20 percent and by at least 12 acres from 2008 totals:

-  46% Sassafra River Segment 1: 552 acres (2008) vs. 808 acres (2009)
-  31% Northeast River: 183 acres (2008) vs. 240 acres (2009)
-  24% Upper Central Chesapeake Bay: 189 acres (2008) vs. 234 acres (2009)

Two of the 21 segments decreased by at least 20 percent and by at least 12 acres from 2008 totals:

-  86% Magothy River: 90 acres (2008) vs. 12 acres (2009)
-  27% Bush River: 519 acres (2008) vs. 381 acres (2009)











Three of the 21 segments remained unvegetated in 2009.

<b>Acres of SAV &amp; Goal Attained: Upper Chesapeake Bay Zone</b>				
<b>Segment</b>	<b>2008</b>	<b>2009</b>	<b>Restoration Goal</b>	<b>2009 % of Goal</b>
Northern Chesapeake Bay	15,201.07	15,261.29	12,903	118%
<i>Northern Chesapeake Bay Segment 1</i>	<i>1,007.29</i>	<i>1,078.83</i>	<i>754</i>	<i>143%</i>
<i>Northern Chesapeake Bay Segment 2</i>	<i>14,193.78</i>	<i>14,182.46</i>	<i>12,149</i>	<i>117%</i>
Northeast River	182.71	240.14	89	270%
Elk River	2,346.68	2,532.78	2,034	125%
<i>Elk River Segment 1</i>	<i>1,906.58</i>	<i>2,070.16</i>	<i>1,844</i>	<i>112%</i>
<i>Elk River Segment 2</i>	<i>440.10</i>	<i>462.61</i>	<i>190</i>	<i>243%</i>
Bohemia River	528.42	546.90	354	154%
Chesapeake & Delaware Canal	12.21	7.24	7	103%
Upper Chesapeake Bay	632.92	745.46	705	106%
Sassafra River	604.97	861.15	1,168	74%
<i>Sassafra River Segment 1</i>	<i>552.19</i>	<i>807.98</i>	<i>1,073</i>	<i>75%</i>
<i>Sassafra River Segment 2</i>	<i>52.78</i>	<i>53.18</i>	<i>95</i>	<i>56%</i>
Bush River	519.13	381.29	350	109%
Gunpowder River	1,719.29	1,887.67	2,432	78%
<i>Gunpowder River Segment 1</i>	<i>782.75</i>	<i>854.53</i>	<i>1,860</i>	<i>46%</i>
<i>Gunpowder River Segment 2</i>	<i>936.55</i>	<i>1,033.14</i>	<i>572</i>	<i>181%</i>
Middle River	826.68	780.35	879	89%
Back River	0.00	0.00	340	0%
Upper Central Chesapeake Bay	188.74	234.46	1,370	17%
Patapsco River	18.14	11.54	389	3%
Magothy River	89.65	12.11	579	2%
Lower Chester River	82.78	95.34	2,928	3%
Middle Chester River	0.00	0.00	77	0%
Upper Chester River	0.00	0.00	230	0%
<b>Upper Zone Total:</b>	<b>22,953.41</b>	<b>23,597.74</b>	<b>23,630</b>	<b>100%</b>




## Middle Bay Zone

In the Middle Bay Zone (44 segments extending south from the Chesapeake Bay Bridge to the Potomac River and Pocomoke Sound), bay grass acreage increased 15 percent from 34,521 acres in 2008 to 39,604 acres in 2009.

Ten of the 44 segments increased by at least 20 percent and by at least 12 acres from 2008 totals:

-  Fishing Bay: 22 acres (2008) vs. 147 acres (2009)  
564%
-  Lower Patuxent River Segment 1: 7 acres (2008) vs. 40 acres (2009)  
489%
-  Eastern Bay: 90 acres (2008) vs. 473 acres (2009)  
427%
-  Little Choptank River: 80 acres (2008) vs. 177 acres (2009)  
120%
-  Lower Central Chesapeake Bay: 3,082 acres (2008) vs. 4,579 acres (2009)  
49%
-  Mouth of the Choptank River: 461 acres (2008) vs. 649 acres (2009)  
41%
-  Manokin River Segment 1: 415 acres (2008) vs. 585 acres (2009)  
41%
-  Lower Pocomoke River: 1,397 acres (2008) vs. 1,833 acres (2009)  
31%
-  Upper Patuxent River: 132 acres (2008) vs. 164 acres (2009)  
25%
-  Honga River: 3,965 acres (2008) vs. 4,922 acres (2009)  
24%

Three of the 44 segments decreased by at least 20 percent and by at least 12 acres from 2008 totals:

-  Piscataway Creek: 765 acres (2008) vs. 274 acres (2009)  
64%
-  Severn River: 311 acres (2008) vs. 211 acres (2009)  
32%
-  Middle Potomac River Segment 3: 106 acres (2008) vs. 83 acres (2009)  
22%

Twenty-one of the 44 segments remained unvegetated in 2009.







Acres of SAV & Goal Attained: Middle Chesapeake Bay Zone				
Segment	2008	2009	Restoration Goal	2009 % of Goal
Middle Central Chesapeake Bay	0.00	0.37	2,533	0%
Eastern Bay	89.87	473.24	6,209	8%
Mouth of the Choptank River	460.51	649.03	8,184	8%
Lower Choptank River	0.00	0.00	1,621	0%
Middle Choptank River	0.00	0.00	72	0%
Upper Choptank River	0.00	0.00	NZG	N/A
Little Choptank River	80.46	176.61	4,076	4%
Severn River	311.24	211.01	455	46%
South River	0.00	0.00	479	0%
Rhode River	0.00	0.00	60	0%

West River	0.00	0.00	238	0%
Lower Central Chesapeake Bay	3,081.66	4,579.12	15,903	29%
<i>Lower Central Chesapeake Bay (MD)</i>	1,133.99	2,280.03	8,270	28%
<i>Lower Central Chesapeake Bay (VA)</i>	1,947.67	2,299.09	7,633	30%
Honga River	3,964.68	4,922.13	7,761	63%
Fishing Bay	22.17	147.20	197	75%
Lower Nanticoke River	0.00	0.00	3	0%
Middle Nanticoke River	0.00	0.00	12	0%
Upper Nanticoke River	0.00	0.00	NZG	N/A
Wicomico River	0.00	0.00	3	0%
Tangier Sound	10,922.90	12,768.42	38,336	33%
<i>Tangier Sound Segment 1 (MD)</i>	5,076.58	7,128.80	24,683	29%
<i>Tangier Sound Segment 1 (VA)</i>	5,846.33	5,634.95	13,579	41%
<i>Tangier Sound Segment 2 (MD)</i>	0.00	4.67	74	6%
Manokin River	414.92	585.30	4,353	13%
<i>Manokin River Segment 1</i>	414.92	585.30	4,294	14%
<i>Manokin River Segment 2</i>	0.00	0.00	59	0%
Big Annemessex River	722.33	849.37	2,043	42%
<i>Big Annemessex River Segment 1</i>	722.33	849.37	2,021	42%
<i>Big Annemessex River Segment 2</i>	0.00	0.00	22	0%
Lower Pocomoke River	1,396.91	1,833.48	4,943	37%
<i>Lower Pocomoke River (MD)</i>	80.21	112.58	877	13%
<i>Lower Pocomoke River (VA)</i>	1,316.70	1,720.90	4,066	42%
Middle Pocomoke River	0.00	0.00	22	0%
Upper Pocomoke River	0.00	0.00	NZG	N/A
Lower Patuxent River	6.72	39.64	1,634	2%
<i>Lower Patuxent River Segment 1</i>	6.72	39.64	1,459	3%
<i>Lower Patuxent River Segment 2</i>	0.00	0.00	172	0%
<i>Lower Patuxent River Segment 3</i>	0.00	0.00	NZG	N/A
<i>Lower Patuxent River Segment 4</i>	0.00	0.00	1	0%
<i>Lower Patuxent River Segment 5</i>	0.00	0.00	2	0%
<i>Lower Patuxent River Segment 6</i>	0.00	0.00	NZG	N/A
Middle Patuxent River	101.74	92.00	115	80%
Upper Patuxent River	131.66	164.03	205	80%
Western Branch of the Patuxent River	0.00	0.00	0	N/A
Lower Potomac River	395.55	335.90	11,338	3%
<i>Lower Potomac River (MD)</i>	395.55	335.90	7,088	5%
<i>Lower Potomac River (VA)</i>	0.00	0.00	4,250	0%
Middle Potomac River	4,259.11	4,397.42	4,305	102%
<i>Middle Potomac River Segment 1 (MD)</i>	1,219.96	1,218.62	1,387	88%
<i>Middle Potomac River Segment 1 (VA)</i>	2,758.64	2,940.41	1,503	196%
<i>Middle Potomac River Segment 2 (MD)</i>	174.73	155.75	262	59%
<i>Middle Potomac River Segment 3 (MD)</i>	105.79	82.63	1,153	7%
Upper Potomac River	6,517.01	6,240.19	4,618	135%
<i>Upper Potomac River (DC)</i>	243.01	64.08	383	17%
<i>Upper Potomac River (MD)</i>	3,150.75	2,920.82	2,142	136%
<i>Upper Potomac River (VA)</i>	3,123.25	3,255.30	2,093	156%
Mattawoman Creek	877.02	865.75	792	109%
Piscataway Creek	764.58	274.04	789	35%
Anacostia River (DC)	0.00	0.00	6	0%
<b>Middle Zone Total:</b>	<b>34,520.95</b>	<b>39,604.27</b>	<b>115,229</b>	<b>34%</b>

## Lower Bay Zone

In the lower Bay zone (28 segments covering the region south of the Potomac River), SAV increased 17 percent from 19,386 acres in 2008 to 22,697 acres in 2009.

Six of the 28 segments increased by at least 20 percent and by at least 12 acres from 2008 totals:

-  140% Lower Rappahannock River: 609 acres (2008) vs. 1,462 acres (2009)
-  61% Upper Rappahannock River: 109 acres (2008) vs. 176 acres (2009)
-  61% Mouth of the James River: 208 acres (2008) vs. 336 acres (2009)
-  23% Lower York River: 462 acres (2008) vs. 566 acres (2009)
-  22% Western Lower Chesapeake Bay: 446 acres (2008) vs. 546 acres (2009)
-  22% Chickahominy River: 787 acres (2008) vs. 961 acres (2009)

None of the 28 segments decreased by at least 20 percent and by at least 12 acres from 2008 totals.

Eleven of the 28 segments remained unvegetated in 2009.

Acres of SAV & Goal Attained: Lower Chesapeake Bay Zone				
Segment	2008	2009	Restoration Goal	2009 % of Goal
Western Lower Chesapeake Bay	446.26	545.64	1,267	43%
Eastern Lower Chesapeake Bay	6,228.48	7,413.97	15,107	49%
Lower Rappahannock River	609.35	1,461.56	1,700	86%
Corrotoman River	464.91	490.41	768	64%
Middle Rappahannock River	7.83	8.57	4	214%
Upper Rappahannock River	109.05	176.12	66	267%
Piankatank River	346.97	344.17	3,479	10%
Mobjack Bay	7,977.16	8,702.40	15,901	55%
Lower York River	461.63	566.25	2,793	20%
Middle York River	0.00	0.00	239	0%
Lower Mattaponi River	0.00	0.00	NZG	N/A
Upper Mattaponi River	424.19	424.78	85	500%
Lower Pamunkey River	0.00	0.00	NZG	N/A
Upper Pamunkey River	921.72	892.44	187	477%
Mouth of the James River	208.36	336.22	300	112%
Lower James River	0.00	0.00	200	0%
Lower Elizabeth River	0.00	0.00	NZG	N/A
Western Branch of the Elizabeth River	0.00	0.00	NZG	N/A
South Branch of the Elizabeth River	0.00	0.00	NZG	N/A
Eastern Branch of the Elizabeth River	0.00	0.00	NZG	N/A
Lafayette River	0.00	0.00	NZG	N/A
Chickahominy River	786.82	960.94	535	180%
Middle James River	33.61	31.78	15	212%
Upper James River	352.03	333.94	1,200	28%
Upper James River Segment 1	352.03	333.94	1,000	33%
Upper James River Segment 2	0.00	0.00	200	0%

Appomattox River	0.00	0.00	379	0%
Mouth of the Chesapeake Bay	6.47	8.28	11	75%
Lynnhaven & Broad Bays	1.06	0.00	107	0%
<b>Lower Zone Total:</b>	<b>19,385.90</b>	<b>22,697.47</b>	<b>46,030</b>	<b>49%</b>