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Social Media News Release

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Bay's Underwater Grasses Decline For Third Year

New interactive map animates three decades of bay grass data

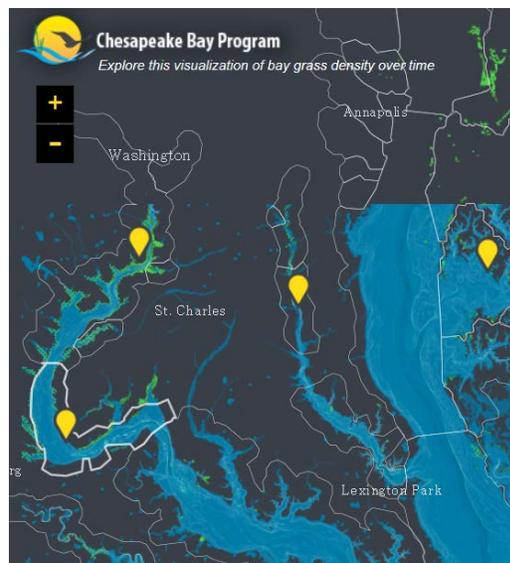
Between 2011 and 2012, underwater grasses in the Bay and its tidal rivers declined 21 percent, approaching lows last reported in 1986. In 2012, Chesapeake Bay Program scientists from Virginia and Maryland found the Bay had 48,191 acres of bay grasses, a decrease of 14,892 acres from 2011 estimates. This third year of decreasing grasses is the cumulative result of inhospitable growing conditions since 2009.

Annual acreage of grasses is estimated through an aerial survey flown from late spring to early fall. Scientists chart the bay grasses by three "zones" – upper, middle and lower Bay – and into subsections by tributaries, called "segments". Overall declines were evident last year in all of the zones with only a few bright spots in specific locations.

The CBP scientists in both states believe losses of the Bay's underwater grasses in the upper and middle Bay zones most likely reflect the effects of Hurricane Irene and Tropical Storm Lee in the fall of 2011 and the resulting sediment they added to the system. In the middle and lower Bay, grasses were subjected to excessively warm waters in summer of 2010 and poor water clarity since then has kept them from rebounding.

While these losses are concerning, two areas showed notable resilience or expansion in 2012. Although the large grass bed at the head of the Bay on the Susquehanna Flats decreased in size, the grasses there remained robust and very dense. In addition, grasses continued to increase in the mainstem of the James River.

CBP has created a [new dynamic online mapping tool](#) that anyone can use to see how the Bay's underwater grasses have changed in location, abundance and species over the last thirty years.



Facts

In 2012, of the 93 tributary segments mapped during the survey, grasses increased in 17, decreased in 47 and remained unvegetated in 29 segments.

Upper Bay Grass Zone (21 segments north of Chesapeake Bay Bridge)

2012: 9,087 acres 2011: 13,287 acres

- 32 percent overall decrease
- No increases; 11 decreased by at least 20 percent; 2 unvegetated

Middle Bay Grass Zone (44 segments from Bay Bridge to Potomac River and Pocomoke Sound)

2012: 24,522 acres 2011: 34,142 acres*

- 28 percent overall decrease
- 3 areas increased by at least 20 percent; 14 areas decreased by at least 20 percent; 17 un-vegetated

* This estimate substitutes figures from 2010 for some areas in the middle zone that were not fully mapped for 2011.

Lower Bay Grass Zone (28 segments south of the Potomac River)

2012: 14,582 acres 2011: 15,654 acres

- 7 percent overall decrease
- 1 segment increased by at least 20 percent; 6 segments decreased by at least 20 percent; 10 unvegetated

Freshwater grasses have remained at consistently high levels in the lower zone tributaries with new beds appearing in several areas of the mainstem James River.

Issues

Like grass on land, [underwater grass beds](#) require sunlight to grow and thrive. When the Bay's waters become clouded with [sediment](#) and algae that result from [excess nutrients](#) in the water, grasses find it harder to survive. It is critical to reduce the amount of these pollutants entering our waters for grasses and for water quality that can support the Bay's creatures.

Importance

Underwater grasses are critical to the Bay ecosystem. They provide habitat and nursery grounds for fish and blue crabs, serve as food for animals such as turtles and waterfowl, clear the water by reducing wave action, absorb excess nutrients and reduce shoreline erosion.

They are also an excellent measure of the Bay's overall condition because their health is closely linked to water quality. Healthier waters can be supported by pollution-controlling efforts including better agricultural and urban management practices, upgrades to wastewater treatment plants and more conservation landscaping by homeowners.

Quotes

"It has been a rough few years for bay grasses and we were not terribly surprised by the survey results. In 2010, the unusually hot summer caused some grasses to die back in the lower Bay after we had completed the 2010 survey for that region. 2011 brought a wet spring and muddy conditions during the early growing season and a fall with two major storms that resulted in decreased water quality again. Between these factors and warming water temperatures, the Bay's grass beds face an uphill challenge."

- Bob Orth, Coordinator, SAV (Submerged Aquatic Vegetation) Survey (VIMS)

"In previous years, when we've had declines in one part of the Bay, they were offset by gains in other areas. 2012 is unusual because we saw losses in the fresh, brackish and salty parts of the Bay simultaneously. In the somewhat salty waters in the mid-Bay zone, the reduction in diversity of grass species over the last thirty years means that single-species grass beds there are less resilient to changes in water quality and temperature that we've seen in the last couple of years."

- Lee Karrh, Chair, CBP [SAV \(Submerged Aquatic Vegetation\) Workgroup](#) (MD-DNR)

"We have both cause for concern and encouragement; while the declines are worrisome, there are still some signs of resilience in the Bay. It is good to see the Susquehanna Flats underwater grasses remaining hardy and exciting to see emerging beds in the James River. However, this year's data is a sobering reminder of how imperative it is to continue our restoration efforts."

- Nick DiPasquale, Director, Chesapeake Bay Program (EPA)

Additional Information

Backgrounder

[VIMS Underwater Grasses research](#)

Images

Find photos on [CBP's Flickr site](#).

Videos

Science

- [Bay 101: Bay Grasses](#)
- [Bay 101: Water Clarity](#)