



Chesapeake Bay Program  
Science, Restoration, and Partnership

## Social Media News Release

# Science Shows Restoration Efforts Can Improve Local Water Quality in the Chesapeake Bay

## Case studies show best management practices have lowered pollution

**Information embargoed until 10 a.m. on Tuesday, February 25, 2014**

Annapolis, MD – Pollution-reducing practices can improve water quality in the Chesapeake Bay and its rivers and streams, according to new research from the Chesapeake Bay Program partnership. In a report released today, a number of case studies show that “best management practices”—including upgrading wastewater treatment plants, lowering vehicle and power plant emissions and reducing runoff from farmland—have lowered nutrients and sediment in local waterways.

*New Insights: Science-based evidence of water quality improvements, challenges, and opportunities in the Chesapeake* compiles data collected and analyzed by Chesapeake Bay Program partners, including the University of Maryland Center for Environmental Science (UMCES) and the U.S. Geological Survey (USGS). These data show:

- The Clean Water Act is working. Upgrading wastewater treatment technologies has led to cleaner waters and healthier habitats.
- The Clean Air Act is working. Lowering vehicle and power plant emissions has lowered nutrient pollution in some waterways.
- Reducing agricultural runoff is working. Planting cover crops, managing manure and excluding cattle from rivers and streams has improved local water quality across the region.

The continued use of these proven and innovative pollution-reducing practices—which are supported under the Clean Water Act, the Clean Air Act and the Farm Bill—is critical to the restoration of the Bay: while we have improved water quality, our progress can be overwhelmed by intensified agriculture and unsustainable development, and our patience can be tested by the “lag times” that delay the full benefits of restoration work. As urban and suburban development expand, managing stormwater will be crucial in maintaining a healthy Bay, while targeting and monitoring pollution-reducing practices will be integral in creating a vibrant watershed.

## Facts

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Our long-term efforts to reduce pollution have led to local improvements in our air, land and waters:

- Upgrades in wastewater treatment technologies have lowered the amount of nutrients flowing into the Potomac, Patuxent and Back rivers, and in some areas have led to a resurgence in underwater grasses.
- A drop in power plant emissions across the mid-Atlantic has led to water quality improvements in nine watersheds in the Appalachian Mountains.
- Planting cover crops can keep nutrients out of our groundwater, while managing manure and excluding cattle from waterways can keep nutrients and sediment out of our rivers and streams.

Lag times can delay the full benefits of best management practices and can vary based on the kind of restoration work completed and a restoration site’s distance from a nearby river or stream. Lag times can also be affected by the slow movement of groundwater (and the nutrients it often contains) from underground aquifers into local streams and the Chesapeake Bay.



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## Issues

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Excess [nutrients](#) and [sediment](#) can impair water quality: nitrogen and phosphorous can fuel the growth of algae blooms and lead to low-oxygen “dead zones” that suffocate marine life, while sediment can block sunlight from reaching underwater grasses and suffocate shellfish. Best management practices used in backyards, in cities and on farms can lower the flow of nutrients and sediment into waterways.

## Importance

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The case studies in this report reveal multiple implications for Chesapeake Bay restoration:

- Upgrading wastewater treatment technologies will lead to rapid water quality improvements, while implementing stormwater runoff controls will help combat the pressures of development.
- Greater fuel efficiency and the continued installation of improved technology at power plants will improve air quality and Bay health.
- On-farm best management practices will improve local water quality and mitigate the pressures of intensified agriculture.
- Patience and persistence will help partners manage lag times, while targeting and monitoring restoration work will ensure partners’ practices are as effective as possible.

## Quotes

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“In *New Insights*, we find the scientific evidence to support what we’ve said before: we are rebuilding nature’s resilience back into the Chesapeake Bay ecosystem, and the watershed can and will recover when our communities support clean local waters. These case studies demonstrate that if we are patient and persistent, the results of our restoration efforts will be realized over time. But if we are to continue to restore our waters, local leaders must use information like this to make wise decisions about meeting the needs of a growing population while offering residents clean rivers, healthy streams and productive Bay waters. *New Insights* is confirmation that it can be done. Now we need to refocus and redouble our efforts—in more places, in more ways and with increased dedication.”

--- Nick DiPasquale, Director, Chesapeake Bay Program

“This report shows that long-term efforts to reduce pollution are working, but we need to remain patient and diligent in making sure we are putting the right practices in place at the right locations in Chesapeake Bay watershed. Science has and will continue to play a critical role informing us about what is working and what still needs to be done.”

--- Donald Boesch, President, University of Maryland Center for Environmental Science

“Our long-term efforts to reduce pollution have led to improvements in our air, land and water—particularly through upgrades to wastewater treatment plants and reductions in nitrogen coming from the atmosphere. Improving stormwater management in the face of ongoing development of the watershed will be key to maintaining the health of our waterways.”

--- Bill Dennison, Vice President for Science Applications, University of Maryland Center for Environmental Science



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## Related News

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- [Science shows restoration work can improve local water quality](#)

### Media Contact:

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### We Recommend:

- New Insights: Science-based evidence of water quality improvements, challenges, and opportunities in the Chesapeake [[Executive Summary](#)]
- New Insights: Science-based evidence of water quality improvements, challenges, and opportunities in the Chesapeake [[Full Report](#)]

### Videos:

- [Bay 101: Air Pollution](#)
- [Bay 101: Wastewater Treatment Plants](#)
- [From the Field: Wastewater Treatment Plant Upgrades](#)
- [From the Field: Sustainable agriculture in Lancaster County, Pa.](#)
- [Restoration Spotlight: Farm's conservation practices cut pollution at its source](#)

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