



# DEP NEWS RELEASE

New Jersey Department of Environmental Protection

Chris Christie, Governor  
Kim Guadagno, Lt. Governor  
Bob Martin, Commissioner



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## **BENCHMARK U.S. GEOLOGICAL SURVEY STUDY SHOWS WATER QUALITY IMPROVING IN NEW JERSEY**

*STUDY SPANNING FOUR DECADES OF NUTRIENT DATA WILL PROVIDE USEFUL TOOL IN TARGETING EFFORTS TO FURTHER ENHANCE WATER QUALITY*

**(17/P10) TRENTON** – A benchmark study by the U.S. Geological Survey (USGS) and commissioned by the Department of Environmental Protection and Delaware River Basin Commission shows that levels of algae-causing nutrients in waterways are largely declining or holding steady, a positive sign for water quality in New Jersey, Commissioner Bob Martin announced today.

“Modernization of wastewater treatment plants, steps to better manage stormwater at the local level, decades of good work by the DEP, and tough laws protecting rivers and streams and ecologically sensitive areas along them are resulting in healthier waterways that enhance our



quality of life in New Jersey,” Commissioner Martin said. “This report represents the most comprehensive analysis ever of nutrient trends in New Jersey and provides a valuable platform for developing management strategies that will even further improve water quality.”

The DEP commissioned the USGS to analyze data from 28 monitoring stations for long-term trends in levels of nitrogen and phosphorous present in waterways. In all, the USGS analyzed more than 82,000 data points collected over a 41-year period from a variety of urban, suburban, agricultural and protected areas.

“The U.S. Geological Survey and the DEP have a longstanding and productive partnership, one that is very unique,” said Bob Hirsch, a USGS scientist who co-authored the report. “Both

agencies fully appreciate the importance residents in the nation’s most densely populated state place on water quality. With this comprehensive data set and newer statistical methods, we were able to provide our most detailed assessment yet of nutrient trends in the state.”

While phosphorous and nitrogen are naturally occurring and necessary for aquatic systems, excessive levels degrade water quality by exacerbating algae growth, which affects habitat for fish and other aquatic wildlife and can cause taste and odor issues in treated drinking water supplies. Excessive algal blooms also diminish recreational enjoyment of waterways. The most common sources of excessive nutrients to waterways are discharges from wastewater treatment plants; runoff containing residential and agricultural fertilizers, as well as animal wastes; and outdated or improperly functioning septic systems.

At 25 of the 28 study sites, concentrations of phosphorous and all forms of nitrogen decreased or did not change significantly. An upward trend in phosphorous levels was observed at a station at the West Branch of the Wading River in Woodland Township, Burlington County. Nitrogen levels increased at just two stations, one at the Toms River in Toms River, Ocean County, and the other at the Cohansy River in Upper Deerfield, Cumberland County. The results of the study will enable the DEP to conduct more comprehensive research into factors behind these changes.

The study found that water quality improvements took hold in the 1980s into the 1990s as wastewater treatment plants were modernized, in many cases regional plants replacing small local plants. During the same period, the state also ratcheted up its efforts to better manage stormwater through its municipal stormwater permitting program.

This program requires local governments to implement stormwater control standards and best management practices for development projects, protect watersheds through steps such as animal waste ordinances, educate the public on impacts of stormwater, and take other steps to mitigate the impacts of stormwater runoff.



Over the years, the state has implemented rigorous standards for industrial and wastewater discharges, known as point sources, and is implementing innovative programs to address combined sewage-stormwater discharges in urban areas with antiquated infrastructure. However, stormwater runoff pollution, also called nonpoint source pollution, is more difficult to address because of its widespread nature.

“Today, stormwater pollution remains our biggest water quality challenge,” said Dan Kennedy, DEP’s Assistant Commissioner for Water Resource Management. “The numbers from this study are very encouraging, showing us that we are making progress. But we also recognize that more work needs to be done, and that every homeowner and business owner can make a difference by making wise decisions regarding the use of fertilizers on lawns and in landscaping.”

In 2011, Governor Christie signed into law one of the nation’s toughest fertilizer laws. Now fully phased in, the law requires applicators to utilize best management practices when they apply fertilizers near waterways, requires certifications for professional applicators and lawn-care providers, and requires manufacturers to reformulate fertilizers to reduce the impacts of phosphorous and nitrogen on waterways.

The statewide fertilizer law was a product of the Christie Administration’s comprehensive strategy to address water quality in the highly populated and ecologically sensitive Barnegat Bay watershed. This effort includes making tens of millions of dollars available to local governments for improved stormwater infrastructure, extensive scientific research on indicators of bay health, and an extensive public awareness effort that includes periodic watershed-wide volunteer trash cleanups.

The USGS launched its nutrient evaluation in 2012, reviewing data collected between 1971 and 2011 from the state’s Ambient Surface-Water Quality Monitoring Network, which today includes 73 fixed locations. The compilation of the final report entailed extensive data analysis with state-of-the-art statistical methods. The USGS selected monitoring stations that had the longest available data sets. The sampling points included were among the first established as part of the monitoring network.

The USGS Scientific Investigations Report 2016-5176, Trends in the Quality of Water in New Jersey Streams, Water Years 1971-2011, is available for download at: <https://pubs.er.usgs.gov/publication/sir20165176>

For more on New Jersey’s fertilizer law, visit: <http://www.nj.gov/dep/healthylawnshealthywater/>

**DEP PHOTO/Alan Babbitt, Green Acres 50<sup>th</sup> Anniversary Photo Contest**

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