Ohio Environmental Protection Agency

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Ohio's Nutrient Reduction Strategy

Nutrient pollution is a major water quality problem in Ohio and throughout the nation. While efforts to control nutrient enrichment over the past 30 years yielded some positive results, current evidence shows the need to develop newer solutions and hone the focus on existing strategies to effectively reduce nutrients in our waterways.

Approximately 48 percent of Ohio's watersheds are degraded by nutrient loading from phosphorus and nitrogen and severe algal blooms are damaging the health of Lake Erie and some inland lakes. U.S. EPA has asked states to develop state nutrient reduction plans because states are in the best position to collaborate and find effective solutions.

When the Clean Water Act was adopted in 1972, the focus was put on point source pollution –pollutants coming out of a pipe. Much has been done to reduce impacts from these sources, but more is needed.

Ohio EPA will focus on both point source and nonpoint source pollution while continuing to develop the Ohio Nutrient Reduction Plan. The goal is to restore and maintain the intended uses established for waterways, including water supply, recreation and aquatic life. The development and adoption of nutrient standards under the Clean Water Act is important in this process.

Ohio's Plan

Under the nutrient reduction strategy being developed in Ohio, a target goal will be set for waterways to be considered clean. The strategy will include a renewed emphasis on nutrient removal from point sources and a conceptual framework that identifies actions to accelerate progress in reducing nutrients from nonpoint sources.

Ohio EPA will work with businesses and communities to clean nutrient stressors from waterways by finding the best avenues to reduce these loads within five to 10 years. Strategies will be based on feedback from citizens, industry, stakeholders and affected communities. At the same time, the Ohio Department of Agriculture (ODA) will work with the agriculture community to develop similar phosphorus reduction strategies.

Ohio EPA, ODA and the Ohio Department of Natural Resources (ODNR) will continue to work together, meeting with stakeholder and work groups to determine concepts and develop recommendations. The draft nutrient reduction strategy was submitted to U.S. EPA as a framework that will be used to develop specific implementation strategies to reduce nitrogen and phosphorus levels.

Municipal Concerns

Every municipality in Ohio is potentially affected by the nutrient strategy because phosphorus is usually the limiting nutrient in fresh water systems. In addition, high levels of phosphorus are present in domestic sewage. The strategy describes how a current or potential nutrient problem is confirmed, and would set discharge permit limits designed to restore good water quality.

Where there is a water quality problem, Ohio EPA will work with each community to help them comply with more stringent phosphorus discharge limits. Cities and counties will be given the opportunity to phase in added treatment or engage in water quality trading.

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Business Concerns

Business and industry will be affected to varying degrees depending on industry type. Agricultural producers are not directly regulated, but as sources of nitrogen and phosphorus, have an important role in helping to reduce the delivery of nutrients to Ohio's waterways.

Only a handful of point source industrial sectors discharge significant levels of phosphorus, such as food processing and electroplating facilities. Industries discharging lesser amounts of phosphorus in process wastewaters may still be impacted, but to a lesser degree. In the storm water program, facilities that handle bulk fertilizer may be a significant potential runoff source and would need to implement best management practices and perhaps adhere to limits on runoff.

Analyses

Considering the millions of dollars already spent responding to the symptoms of nutrient enrichment, costs could soon outweigh the expense of controlling nutrients at their sources.

Some activities, such as fixing combined sewer overflows, are very costly. Agricultural producers often operate with narrow profit margins and variable crop prices, which can make adopting some environmentally beneficial practices a burden. The costs cannot be overlooked, especially in the current economic climate.

While many projects will be spread over many years to make them affordable, some initiatives can be done rapidly and with minimal cost. This includes education and outreach to homeowners and the agricultural community to inform them about best management practices that could be done at low or no cost.

Nutrient issues did not become a problem overnight and they will not disappear quickly. It will take everyone working together to restore Ohio's waters and protect our water resources for future generations.

The Framework

The draft framework of the nutrient reduction plan is intended as a starting point for a multi-year, multi-faceted effort to reduce nutrient pollution in Ohio's surface waters. The goal is to find a cost-effective means to reduce the delivery of nutrients present in point source effluents and nonpoint source runoff.

Ohio will use a five-point approach:

1. improve storm water management practices;
2. enhance regulatory practices;
3. expand public outreach and education efforts;
4. improve land use practices; and
5. improve stream habitat management.

Specific steps to address nutrient sources in the strategy include:

- continue to implement programs to control or eliminate combined sewer overflows;
- adopt nutrient water quality standards by applying a weight of evidence approach;
- reduce phosphorus concentration in discharges from municipal wastewater treatment plants;
- implement manure management plans for additional Ohio livestock farms;
- implement responsible commercial fertilizer practices to reduce nutrient loads on agricultural fields;
- install conservation practices that reduce the rate and amount of runoff from agricultural fields;
- implement whole-farm conservation planning to protect water resources as part of best management practices;
- educate property owners to use phosphorus-free fertilizers and eliminate runoff from lawns and gardens;
- educate property owners about home septic system maintenance;
- control storm water runoff from construction and industrial sites; and
- address municipal storm water discharges from the municipal separate storm sewer systems (MS4) program.

Nutrient Management Model

Ohio EPA plans to follow an established nutrient management model and use the work product of several ongoing workgroups in Ohio to discuss nutrients and their impacts on Ohio's waterways. They include:

- Lake Erie Phosphorus Task Force – The task force was established in 2007 and included experts from academia, government agencies, agri-business and other stakeholders.
- Lake Erie Phosphorus Task Force Phase II – Will convene in February 2012 under provisions and funding from U.S. EPA. A similar group of stakeholders will focus on the means of implementing practices that reduce the delivery of dissolved reactive phosphorus to Lake Erie. Their final grant report will be due in the spring 2014.
- The Directors' Agricultural Nutrients and Water Quality Working Group – The group, established by the directors of Ohio EPA, Ohio Department of Agriculture (ODA) and Ohio Department of Natural Resources (ODNR), was convened in August 2011 and is comprised of a wide base of interest groups. They are charged with recommending how to reduce nutrients that reach surface waters from agricultural production practices. The directors are scheduled to take recommendations to Governor Kasich in February 2012.
- The Point Source Urban Work Group.

Continued Leadership

Ohio EPA plans to review the recommendations from these workgroups and integrate them into the draft framework. Keeping stakeholders and state partners involved in the process of continually updating the nutrient reduction strategy for Ohio will be essential to the success of the process. The panel could be chartered and continue to act as a broad-based advisory group to Ohio EPA.

For More Information

Read the companion fact sheet *The Impact of Nitrogen and Phosphorus on Water Quality.*

Visit the Division of Surface Water website
www.epa.ohio.gov/dsw

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