



Developing 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 have yielded some positive results, current evidence shows the need to develop newer solutions and improve the effectiveness and efficiency of existing strategies to reduce nutrients in our waterways.

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What Is Nutrient Pollution?

Nutrient pollution is caused by an excess of phosphorus and/or nitrogen in the aquatic environment. Excess nutrients in the aquatic environment can cause algal blooms that are larger in volume, and occur with greater frequency and duration, than they would in an environment without excess nutrients. These algal blooms can deplete oxygen in the water, causing fish kills. The algal blooms can also produce toxins and skin irritants that can sicken humans and animals. These results of nutrient pollution hurt the state's tourism economy, decrease recreational uses of waterbodies,

decrease property values along lakes, cause sickness and fatalities in livestock and pets, and cause dermatitis and respiratory symptoms in swimmers. In addition, high nitrate concentrations in surface and ground water are a human health concern and may cause public water supply utilities to install costly treatment equipment.

Why Does Ohio Need to Address Nutrient Pollution Now?

The enrichment of lakes, reservoirs, rivers and wetlands with excess nutrients is consistently one of the nation's top causes of water resource impairment. Many of Ohio's waterbodies are affected by nutrient pollution. Elevated levels of nutrients have degraded approximately 48 percent of the state's watersheds and severe algal blooms are damaging the health of Lake Erie and some inland lakes.

Developing the Strategy

To address this national problem, the U.S. Environmental Protection Agency has asked states to develop statewide nutrient reduction plans. States are in the best position to collaborate and find effective solutions to the statewide nutrient issue. Ohio's Environmental Protection Agency, Department of Agriculture, and Department of Natural Resources have started the process of developing a statewide Nutrient Reduction Strategy.

The goal of Ohio's Nutrient Reduction Strategy is to restore and maintain the intended uses established for waterways, including water supply, recreation, and aquatic life. The Strategy will provide a comprehensive picture of nutrient management activities for both point sources and nonpoint

Nutrient Pollution Pathways

- Nonpoint source water pollution involves the input of pollutants from land runoff, precipitation, atmospheric deposition, drainage, seepage, or hydrologic modification.
- Point source water pollution comes from a single discrete place from which pollutants are or can be discharged, typically a pipe.

Developing Ohio's Nutrient Reduction Strategy

sources in Ohio. It will document ongoing nutrient reduction activities and identify areas where further progress is needed. The Strategy will address the concerns of each affected sector and will focus on building partnerships with various stakeholders throughout the development process. Developing and implementing this type of statewide strategy will require adaptive management—a process where different approaches are used, evaluated, and adjusted to ensure progress overtime.

Ohio's Nutrient Management Model

Ohio's Environmental Protection Agency (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 (Phases I & II)
- The Directors' Agricultural Nutrients and Water Quality Workgroup
- The Point Source & Urban Runoff Workgroup

Both Ohio's Point Source & Urban Runoff and The Directors' Agricultural Nutrients and Water Quality Workgroups convened in 2012 to develop a set of key recommendations to help assist the state in developing Ohio's Nutrient Reduction Strategy. Partners will take all of these recommendations into consideration as the state continues to develop Ohio's Nutrient Reduction Strategy.

Achieving Water Quality Goals

By using the best available technology and the expertise of various stakeholders, Ohio partner agencies will implement water quality monitoring programs that will track progress towards our statewide nutrient reduction goals. Nutrient issues did not become a problem overnight and they will not disappear quickly. With everyone across the state working together, we can restore Ohio's waters for this generation and the next.

In an effort to inform all interest groups of what is being done to reduce nutrient loadings in Ohio's waterways and to better inform the Strategy development process, Ohio EPA, the Department of Agriculture, and the Department of Natural Resources will be holding a Nutrient Forum – Visioning Workshop. Those in attendance will gain a clearer picture of the state's nutrient problems and how previous workgroup recommendations are developing into more cohesive actions.



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Key Recommendations from Ohio's Workgroups

- 1 Develop a state-wide nutrient mass balance sheet
- 2 Encourage and promote operational experimentation at wastewater treatment facilities
- 3 Appoint a panel of economic, financial, and policy experts to discuss funding the Strategy
- 4 Publish an annual report on nutrient loadings and water quality
- 5 Integrate watershed management and green infrastructure planning within the Strategy
- 6 Develop a framework for prioritization to ensure that effort and resources are strategically directed towards maximizing results
- 7 Focus currently fragmented government efforts towards research, data gathering, and funding sources
- 8 Develop a comprehensive communications and outreach effort