Ohio Nutrient Forum

VISIONING WORKSHOP

Morning Session - Presentation Abstracts

Background on State Nutrient Reduction Approaches

U. S. EPA Region 5 representatives will present the background about why nutrients are a major priority for the federal EPA. The Region's expectations for state actions will be addressed along with suggestions for overcoming institutional challenges. Combating nutrient pollution will require a profound long-term change in how we implement programs and share accountability between sources, within watersheds and across state lines. State-led leadership in developing effective state-to-state and state-private partnerships is a vital component of success.

Visioning Workshop Objectives

The workshop's intent is to bring together members of the general public, private businesses, agricultural producers and environmental advocates with local, state and federal government officials to review what is known about excessive nutrients in Ohio's waters and to discuss the efforts underway to reduce nutrient in surface and ground waters. It is important to communicate effectively and understand the connection between the many different efforts that will be necessary to tackle nutrient water pollution in Ohio. One point is clear – our most valuable water resources are at serious risk and failure to curb these pollution threats is an unacceptable outcome. We need to ask what else can be done, how to make it happen and then implement the appropriate changes. Key objectives for today's workshop are:

- Present basic information about current water quality conditions;
- Describe what is being done to reduce nutrient loadings in Ohio's waterways;
- Highlight successes and areas for improvement;
- Challenge participants to develop new and innovative approaches; and
- Gather ideas, opinions and feedback from key stakeholders.

Status Report on Water Quality Conditions and Point Source Loadings

Assessment and Reporting of the Nutrient Problem Affecting Ohio Water Resources

The Integrated Report (IR) is the primary vehicle used by Ohio EPA to report on the status and trends in surface water quality. The report is a requirement of the Clean Water Act and is due on April 1 of every even-numbered year. A brief primer will be provided on the IR assessment and reporting process followed by a high-level snapshot of statewide water resource conditions taken from the recently completed 2012 IR. Emphasis will be placed on nutrients and other related problems.

Point Source Loadings and Trends

The performance of wastewater treatment facilities in the Sandusky River watershed and the Great Miami River watershed upstream of Miamisburg will be explored. Trends in wastewater final effluent loads and combined sewer overflow (CSO) characteristics, for overflow events and discharge, will be examined from the period 2002 to the present. Further, a nutrient loading comparison (using 2011 monitoring data) between the overall load at the watershed outlet and that produced by wastewater treatment plant final effluent and all CSOs will be discussed. Projections in CSO long-term control plan (LTCP) implementation for Ohio facilities (68 total) will also be made. LTCPs are intended to eliminate or reduce CSO occurrence and specific requirements are imposed through the point source permitting program.

Nutrient Impacts on Ohio's Drinking Water Quality

Nutrients can negatively impact drinking water quality through a variety of mechanisms:

- Nitrate-nitrogen contamination is the most direct effect, and compliance with acute exposure-based maximum contaminant levels is often only maintained through costly mitigation, avoidance or advanced treatment measures. Ammonia can also directly affect water quality and increase treatment costs.
- Elevated phosphorus loads to surface water have been linked to an increase in harmful algal blooms (HABs). HABs can produce nuisance taste and odor compounds, and cyanotoxins that can cause acute health effects. In the past three years, cyanotoxins have been detected in the majority of drinking water sources tested. HABs have cost public water systems up to $200,000 per month in carbon costs for treatment, in addition to extra capital expenses for advanced treatment plant upgrades.
- Nutrients can increase the biological activity of both surface and ground waters and lead to increased total organic carbon loads, which in turn can increase the production of trihalomethanes during the treatment process. Health risks, including cancer, are associated with chronic exposure to trihalomethanes.
- Nutrients are often accompanied by associated pesticide and soil runoff, which can place an additional increased treatment burden on public water systems.

The extent of these drinking water quality and economic impacts to Ohio's public water systems will be discussed in more detail during the presentation.

Emerging Science - Importance of Dissolved Phosphorus Transport Mechanisms

Dr. King will present an overview of ongoing watershed and edge-of-field research that USDA ARS is doing in Ohio. He will also provide information regarding the emerging practices and technologies that have the potential to reduce phosphorus transport at the edge-of-field and in-stream.

State Agency Activities and New Initiatives

Officials for each state agency (Agriculture, Natural Resources, Ohio EPA and the Lake Erie Commission) will provide a short summary of primary ongoing activities and new initiatives being undertaken at their respective organizations.