Building a foundation for meaningful nutrient reduction in Ohio’s waters

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Ohio has a wealth of water resources

29,000 miles of perennial rivers and streams
447 public lakes larger than 5 acres
290 miles of Lake Erie shoreline
451 mile border on the Ohio River
Ohio EPA Authority

Authorized by the Clean Water Act & the Ohio Revised Code Chapter 6111

- Authority to adopt standards to achieve Clean Water Act goals
- Regulation of point sources such as industry, wastewater treatment plants and urban stormwater
- Assessment of water quality for Ohio’s waters

Why a nutrient reduction strategy?

Excessive nutrients from both point source and nonpoint sources are having significant impacts on Ohio waters.
Biological Impacts

Impacts on Drinking Water Supplies

Increased costs to insure that algal toxins are not in finished drinking water totals more than $3000 per day in one Ohio community.
Impacts on Recreation & Quality of Life

NOTICE
An algae bloom has made this area potentially unsafe for water contact. Avoid direct contact with visible surface scum.

Water based recreation on Lake Erie generates more than $8 billion in economic activity each year.

Something Needs to Change

MY URGE TO HURL HAS INCREASED A LITTLE BIT
THAT'S WHAT CHANGE FEELS LIKE

From the Dilbert-2007 Calendar
Where did we start?

48% of Ohio waters are nutrient impaired.

66% of Lake Erie’s near shore waters are nutrient impaired.
Conservation programs historically have focused on reducing soil loss and erosion rather than nutrients.

Subsurface drain tile significantly increases the rate and amount of runoff from croplands.

Ohio’s farm operations have grown increasingly larger in scope and scale.

Impervious urban and suburban areas have dramatically increased in size.

Changes in farming practices are challenging the effectiveness of current conservation practices.
Larger scale livestock operations are creating new water quality concerns as a result of manure disposal challenges.

CAFO’s permitted by either Dept of Agriculture or OEPA

“One cow equals 14 to 18 humans in terms of phosphorus waste generated each day at 50 pounds of solid waste and 5 gallons of urine” ...

Dr. Harry Gibbons, Tetratech
Continued focus on sediment control will NOT provide sufficient NPS nutrient reductions.

Ohio’s framework emphasizes the need for SUBSTANTIAL changes to how we manage NPS.

\[ P = 760 \, \mu g/L \]

Where are we and how did we get here?

Ohio’s draft framework was prepared by Ohio EPA as a fact-based starting point.

Meaningful nutrient reduction will engage multiple stakeholders … our framework provides a process for stakeholder input moving forward.

The framework is a “core value” document that makes an urgent call to action … and serves as a catalyst for change.
Ohio’s Nutrient Reduction Goals

- Keep nutrients on the land and out of water
- Reduce the rate and amount of runoff
- Increase stream capacity to assimilate nutrient pollutants

Ohio’s Nutrient Reduction Framework
Approach

1. Retrofit antiquated stormwater practices
2. Enhance regulatory practices
3. Improve land use practices
4. Restore stream function
5. Expand educational efforts
Improve Stormwater Management

Enhance Regulatory Practices

1. Is it time to consider licensing nutrient applicators?
2. Whole farm planning regulatory model like Kentucky?
3. Expand Distressed Watershed rules?
Improve Land Use Practices

The use of cover crops is an important tool for reducing excessive nutrients on cropland.

Tree planting and restoration of floodplains and riparian zones are included in Ohio’s strategy.

Restore Stream Function
Expand Educational Activities

Where do we go from here?

• Draft framework reviewed by ODNR and Dept. of Agriculture—submitted to Region 5.

• Recommendations to the Governor from Agricultural Nutrient Reduction Workgroup.

• Point Source Nutrient Reduction Workgroup convened by OEPA.

• Ohio Phosphorus Task Force reconvened with eye toward implementation.
Targeted Watersheds

Watersheds such as the Maumee, Sandusky and Scioto Rivers as well as Lake Erie, Grand Lake and others are targets for focused nutrient reduction activities.

Lake Erie Nutrient Reduction Demonstration Project

Funded under GLRI Grant #GL-00E00836-0
Sponsored by Ohio EPA
Lake Erie Nutrient Reduction Demonstration Project

An innovative collaboration among Ohio EPA, Crawford SWCD, OSU Extension and the Sandusky Watershed Coalition in the Loss Creek subwatershed of the Sandusky River.

Grand Lake St. Marys Restoration
Alum Treatment 2011
Grand Lake St. Marys Restoration
Source Reduction Activities

- Declared a “Distressed Watershed” in 2010
- 38,000 of 54,000 acres in watershed are now covered by nutrient management plans
- More than 500 EQIP sign-ups executed
- Transporting of livestock manure out of watershed is increasing

Buckeye Lake Nutrient Reduction Demonstration Project
Developing the plan is the easy part!!!

Adaptive Management Process

- Identify Problems
- Develop Plan
- Implement Actions
- Monitor Progress
- Evaluate Results
It sounds SO simple!

**Implement Actions**

**Gibson’s Hierarchy of Implementation Purgatory**

- Advocates
- Money
- Support
- Local Relevance
- Cranky Butts
- Murphy’s Law
- Bad Weather
- Bureaucracy

People

- Planners are NOT implementers
- Plan globally—Implement locally
- Getting started is harder than getting done!
- Planning is a science—Implementation is art!

Process
Questions?

The End … though it is actually a beginning.

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