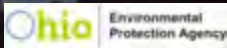


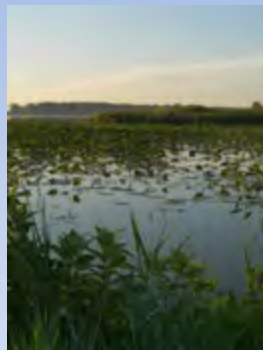
US EPA ARCHIVE DOCUMENT

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



**Russ Gibson, NPS Manager
Ohio EPA-Division of Surface Water**

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

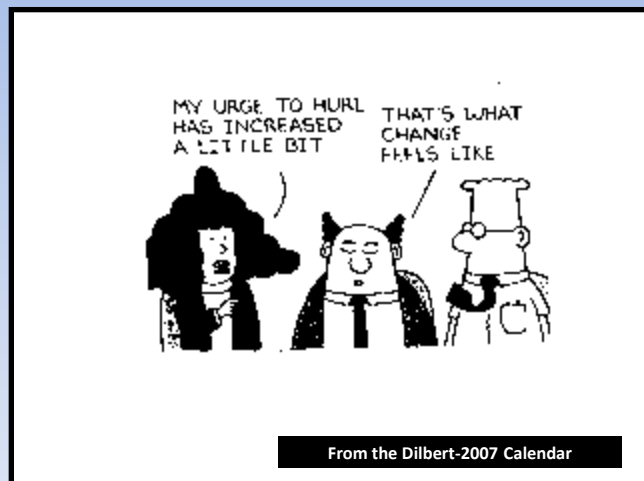
NOTICE

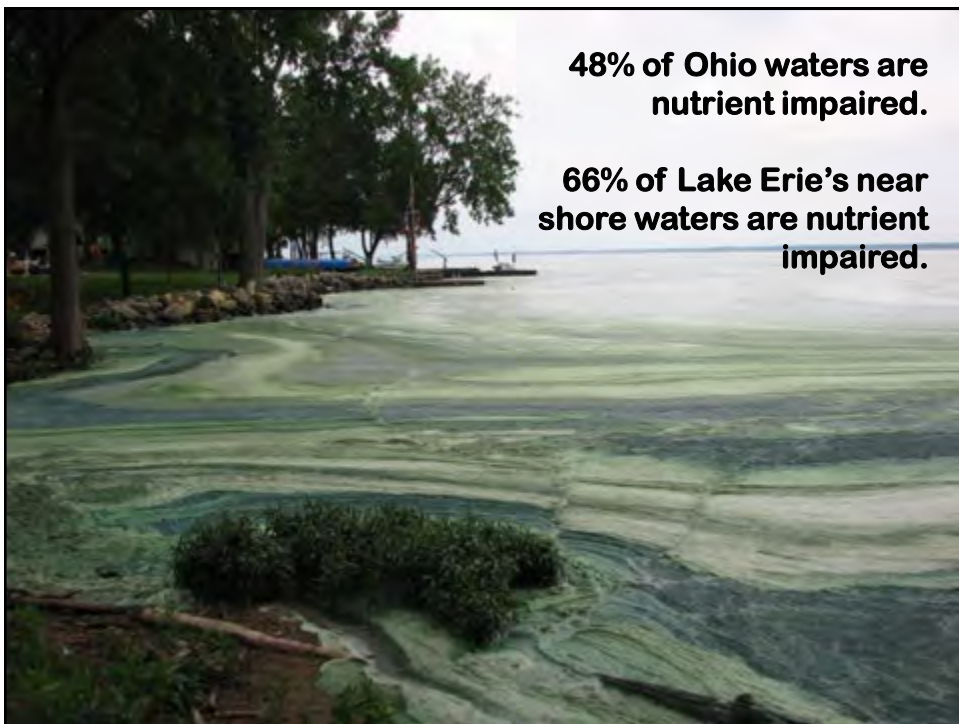
An algae bloom has made this area potentially unsafe for water contact. Avoid direct contact with visible surface scum.



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

Something Needs to Change





What has Changed?

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.

Land Use Changes

Agriculture

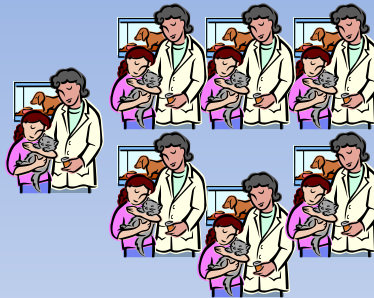
Larger scale livestock operations are creating new water quality concerns as a result of manure disposal challenges.



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, Tetrattech

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.



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



NO

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



YES

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

Restore Stream Function



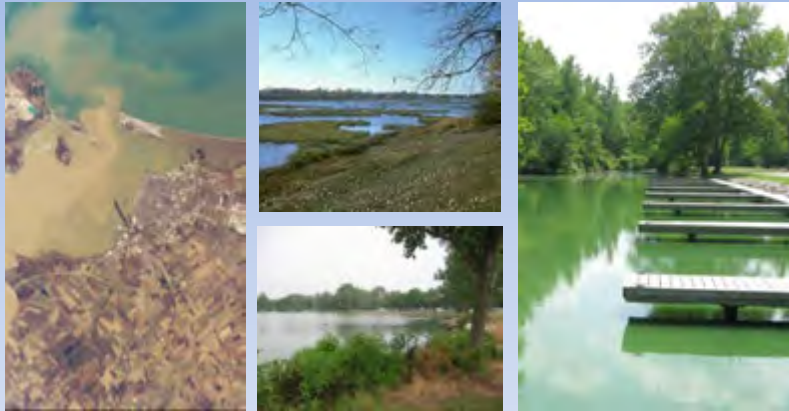
Expand Educational Activities



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

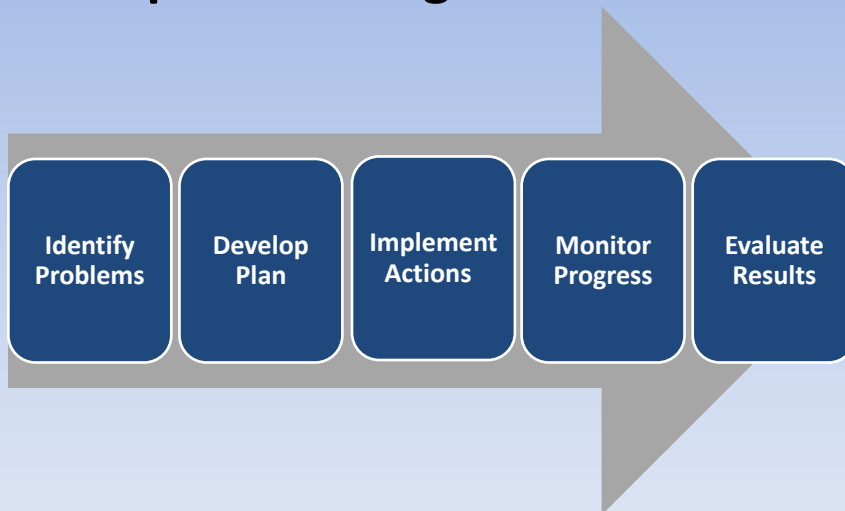
Buckeye Lake Nutrient Reduction Demonstration Project





Developing the plan is the easy part!!!

Adaptive Management Process




Implement Actions

It sounds SO simple!

Gibson's Hierarchy of Implementation Purgatory

Advocates
Money
Support
Local Relevance

People



Cranky Butts
Murphy's Law
Bad Weather
Bureaucracy

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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